THE NEW GENESEE FARMER,

AND GARDENER'S JOURNAL.

M. B. BATEHAM, *Proprietor.* } VOL. 3. ROCHESTER, SEPTEMBER, 1842. NO. 9. } HENRY COLMAN, *Editor.*

PUBLISHED MONTHLY.

TERMS,

FIFTY CENTS, per year, payable always in advance.

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METEOROLOGICAL OBSERVATIONS,

MADE AT THE ROCHESTER COLLEGIATE INSTITUTE BY L. WETHERELL, AUGUST, 1842.

Date.	Thermometer. Sunrise.	1 o'clock, P. M.	Th. at sunset.	Mean.	Winds. A. M.	Winds. P. M.	Weather. A. M.	Weather. P. M.	Rain Gage
26	60	86	72	74.76	s w	w	fair	fair	
27	72	80	68	71.33	s w	n w	fair	fair	
28	60	78	60	65.66	n	n e	fair	fair	
29	58	89	76	77.	s	s	fair	fair	
30	74	88	58	69.83	s w	n e	cl'dy	rain	
31	53	61	52	54.16	n	n	cl'dy	fair	1.2
1	46	60	54	54	n w	n w	cl'dy	cl'dy	
2	50	68	59	69.	n w	n w	fair	fair	
3	50	74	60	61.66	n w	w	fair	fair	
4	52	74	60	62 5	n w	n	fair	fair	
5	55	67	67	63.83	n	n e	cl'dy	rain	.12
6	60	76	66	67.	s	s	fair	fair	
7	58	76	66	67.33	n e	n e	fair	fair	
8	62	71	65	66.16	n e	n e	cl'dy	cl'dy	
9	63	66	64	64.	n e	n e	rain	rain	.69
10	63	73	60	64.33	n e	n e	rain	rain	.06
11	60	77	62	66.	s	n e	cl'dy	fair	
12	58	77	64	67.33	n e	n e	fair	fair	
13	64	82	66	70.	n e	n e	fair	fair	
14	60	84	70	71.66	n e	n e	fair	fair	
15	62	86	68	72.	n e	n e	fair	fair	
16	62	82	72	72.5	n e	n e	fair	fair	
17	65	80	70	72.5	s	s e	fair	sh'w	
18	70	84	72	73 66	s w	s w	fair	sh'w	.20
19	60	80	62	69.66	s w	s w	fair	sh'w	
20	62	66	59	60.66	s w	w	fair	sh'w	
21	52	74	58	61.05	n w	n w	fair	sh'w	
22	53	83	64	67.5	n	n e	fair	sh'w	
23	58	89	68	75.33	n e	n e	fair	sh'w	
24	60	80	62	67.5	n e	n e	fair	sh'w	
25	61	74	71	69.83	n e	n e	cl'dy	cl'dy	

July 26th, fair; 27th, fair; whortleberries ripe; 28th, a little hazy; ripe peaches and apricots in market; 29th, green corn in market; 30th, cloudy in the morning; strong S. W. wind; commenced raining about 2 o'clock, P. M., and continued to rain until the next morning; wind changed about the time it began to rain to N. W. and N., about sunset to N. E.; the greatest rain this year. The temperature of the month has been about the same as last year; being this year, (monthly mean,) 66.94 degrees—last year 66.79 degrees. The greatest heat, the 19th, ther. 91 degrees,—last year the greatest, the 24th, ther. 96 degrees. Rain guage, July, 1842, 3 69 inches; do. 1841, 4.58 inches.

August, named in honor of the Emperor Octavius Augustus.

Aug. 1st, quite cool; rained a little about 2, P. M. Tomatoes ripe. 2nd, fair, and continned so until the 5th; 5th, commenced raining a little after noon; 6th and 7th, fair; 10th, a thunder shower a little south of this; 13th, dense fog till 9 o'clock, A. M.; 14th, foggy early in the morning; 15th, smoky during the day; 17th, showers this P. M.; thunder and lightning in the evening; 18th, gentle showers this P. M.; 25th, very little rain.

AGRICULTURAL INTELLIGENCE.

MONROE COUNTY AGRICULTURAL SOCIETY.—The Executive Committee and the Town Committees are particularly reminded of their meeting appointed to be holden at the Arcade in Rochester, at 10 o'clock, A. M., on the 15th of the present month. It is confidently expected that this meeting will be fully attended, as arrangements are then to be made for the Show on the 13th and 14th of October. Other members of the Society it is hoped will attend on that occasion. The spirit and success with which the show shall go off, must depend entirely upon the interest which the farmers manifest in the matter; and the farmers of Monroe county should not permit the greatest and best interest of the State and County to lag or retrogade, for want of their cordial cooperation. The town committees and others are specially reminded of the necessity of their making returns of the monies collected, that it may be determined to how much we may lay claim from the State Treasury. The latter depends wholly upon the former.

Rules of Premiums and Forms of Certificates of the Monroe Agricultural Society.

The necessity of exactness in all cases of competition for prizes is obvious to every one; and in all cases of agricultural experiment, where the principal object is not the reward of the experimenter for his success, so much as the gathering instruction from what has been done, is equally apparent. Without this, the experiments and results are worth very little.

As much inconvenience has resulted from a deficiency in these returns or from great informality, it seems extremely desirable to give to the farmers such forms and examples as are adapted to the purpose; and notice particularly the points to which, by law, the inquiries of the Premium Committees will be directed,

The following forms of certificates were drawn up by our friend L. B. Langworthy, and have received the approbation of the Executive Committee. These certificates can easily be copied by any farmer and presented to the Secretary of the Society.

I. This certifies that I this day measured a field of belonging to of in the county of Monroe; and found it to contain acres rods, in which I again measured one entire piece containing acre rods and staked the same correctly.

184 *Surveyor.*

Sworn to and subscribed before me this day of 184

Justice of the Peace.

II. This certifies that we assisted to harvest the whole of the crop of grown upon the above land as surveyed and staked out by and on measuring the same find the yield to be bushels lbs, which measurment we know to be correct and true.

Owner.

Assistant.

Sworn to and subscribed before me this day of 184

Justice of the Peace.

Competitors for premiums on crops must give written answers or statements in regard to the following points.

The nature of the soil on which the crop was grown; whether clayey, sandy, gravelly, or loamy; whether abounding in limestone or gypsum, or any other particular mineral; whether high or low, wet or dry; whether drained or not; and if drained, how?

The condition of the land before this crop was planted.

The crop which preceded it.

The amount of the next previous crop and the manure applied to it.

The manure, if any, applied to the crop for which a premium is claimed; its kind, condition, and quantity.

Time and frequency of ploughing, harrowing, cultivating, hoeing, &c.

The quantity of seed per acre, which was sown—mention the kind and preparation of the seed, and the time and manner of sowing.

Time and mode of harvesting and cleaning the crop.

It is necessary likewise to state the whole expense of the crop; including the value of the manure; cost of seed; number of day's works of man and team of two horses; or the cost of the whole labor applied in sowing, cultivating, harvesting, and preparing for use or market; or the whole cost, rating the labor of a man at 75 cents, and of a team of two horses at one dollar per day.

Wheat Crop.

A good deal of wheat in Western New York has been threshed and brought to market; and we are warranted in saying that the crop, though abundant and in general in good order, has not equalled the early expectations and calculations by one quarter, in many cases by one third less. Much of the wheat, likewise, which has been brought to Rochester, has evidently been damaged by being cut in too green a state and afterwards not sufficiently ripened or dried. This is a very serious matter. Early cut wheat will undoubtedly make more and sweeter flour than that which stands too long, and will yield more weight of crop, but this presupposes that it is not cut *too* early, and in the next place, that it is most thoroughly made in the sheaf or stook. In some places the wheat suffered from rust, and in reference to the inquiry respecting the use of rusted straw, one of the best farmers in the state expresses his experience that cattle will not eat much of it, and his conviction that what they do eat will injure them.—*Ed.*

Sale of Durham Stock.

We beg leave to refer our readers to the Great Sale of Durham Cattle advertised to take place at the Rising Sun, three miles from Philadelphia, on the 8th of September, instant. There are several animals of the highest pedigree and character. The catalogue may be seen at the store of M. B. Bateham, Rochester.

IMPROVED AGRICULTURE.

At the late meeting at Bristol of the British Royal Agricultural Society, Mr. Smith of Deanston, the author as he may be called of the Improved System of Thorough Draining and Subsoil Ploughing, was called upon to explain at large, his views and practice in a public lecture. This was done without writing, and has been reported at large in the agricultural press. We have condensed it from the Mark Lane Express, but have taken care to omit nothing that is essential to a full understanding of the subject. It is full of important matter, and will be read by every intelligent farmer with the deepest interest. The results of this system are beneficial in the most extraordinary degree, and bid fair almost to revolutionize the husbandry of Great Britain. The results are not more extraordinary than they are profitable, as it appears from the most undoubted facts, that while under the old system, a Scotch acre of land in a lease of 18 years would, after paying all the expenses of cultivation and rent, leave a profit of only £5. 14s. stg., for the whole time, and at the same time the quality of the land become deteriorated; under the Improved System, the land itself would be left in a highly ameliorated condition, and the actual profits for the same time, after expenses were paid, would be £64. 14s. sterling.—*Ed.*

LECTURE BY MR. SMITH, OF DEANSTON, ON DRAINAGE.

Delivered before the Members of the Royal Agricultural Society, in the Theatre of the Philosophical Institution, Bristol, Wednesday, July 13, 1842.

(From the Bristol Mercury.)

After apologising for the alteration of the time of lecturing, Mr. Smith proceeded:—

The dryness of land is of great importance—in fact, the dry condition of the soil is the foundation of all good husbandry. It is beneficial to the working of the soil; to the after-growth of plants. There is scarcely any labor of agriculture which is not facilitated by the dryness of the soil. If we find a tree stronger than his neighbor, we shall find that there the soil is deep and in a dry condition. If we see a stronger and darker-colored herbage growing on the hill side, there the soil will be found deep, and in a dry condition. There is not one of the various soils of the United Kingdom which will not be much improved by being placed in a dry condition, if they are not so by nature. Even on a subsoil or gravel or sand, the introduction of the thorough drain system would be beneficial; but as there is only a small portion of that sort of soil in this country, the greater part being super-imposed upon a wet soil, it becomes of the first importance to improvement in agriculture that means be taken to render the soil dry. Many attempts have been made with that view, but until the introduction of the thorough drain system, there was not the power of draining land, on whatever subsoil resting, and rendering it completely dry. The purpose of this lecture is to illustrate the principles on which this system acts; then, to show the advantages in carrying on the different processes with respect to the various crops; and then to explain the modes employed to render this drainage effective.

[Mr. Smith here illustrated by a diagram, his method of thorough draining; the soil, the subsoil, the drains, &c., being represented.]

In referring to two lines, representing the direction of drains, he had drawn one at a greater inclination than the other, to show the advantage of making the drains deeper than they generally were. The prevailing practice was to make the drains two feet deep, but he preferred an additional six inches—it was of great importance to allow the water to go off as quickly as possible, and this advantage was secured by cutting the drain to a greater declination. People suppose that at a great depth water would not go off at all, but this was a mistake. Another advantage from a deep drain was that it allowed the whole bank of soil to become completely dry, and it consequently required a very heavy rain to wet it. The action of the atmosphere too required to be taken into account. He would not enter upon the chemical question, but *it was well known that soils were much improved by the action of the air, and this advantage could only be secured after the water was withdrawn.*

To render the field completely dry, a great number of drains should be cut, and they should be laid off in parallel lines beginning at the highest side of the field. This secures a thorough drying. When the lines run parallel, much greater effect is produced than when they are drawn across. When drawn across, the drains may catch the water, but it does not run off so readily.

The distance at which the drains should be placed, will depend on the soil. If the field has been subsoiled, the plough will form artificial channels in the soil below. If it is a stiff soil, it will keep long upon the surface; the more free the soil is, the greater tendency it has to allow the water to pass: so that on a stiff soil, such as the stiffer clays, taking into account the nature of the subsoil and the soil itself, about the same drain will serve on all soils. The distances are generally from 15 to 20 feet: in some soils individuals have put in the drains at 12 feet; but that is, in some degree, throwing away money. From observations which I have made myself on all sorts of soil, I recommend about 16 to 20 feet as the distance from one drain to the other.

The way I usually proceed in draining is, first, to find a good bottom-level to run the drain into. In some parts of the country there is difficulty in getting an open level to carry off the whole water of the district; but by a proper engineering it may be accomplished in most situations; because it is found that if proper channels are executed, a larger quantity of water will be discharged with a very small fall. In an endeavor to carry off water, I found that in a drop of four inches in a mile, thirty feet wide and six feet deep, I could discharge 300 tons of water per minute; which is much more than would fall in a very extensive district indeed. So that if means be taken to carry off the main level, a fall may be had.

I should make the great main drain, if possible, about four feet deep—three feet six inches will do; but in order to have a drop from the one drain into the other, I make the main drain four feet deep, the receiving drain three feet deep, and the parallel drains two feet six inches. When there is any rise in the ground, or any hollows over which the water cannot very well flow, it is necessary to make a cad's drain. That should be made about six inches deeper than the other drains which fall into it; then running on, it discharges itself into the main drain.

As to the manner of executing the drains, various modes are recommended, and on looking to land which has been drained a great many years, where the draining has been performed carefully, all the different modes employed for the purpose of keeping the drains open have been effective. A great deal of the want of effect in the duration of drains has been owing to bad execution. In some instances fagots have been introduced for the purpose of preserving the openings of the drain, and these have been found to continue and to preserve the openings in a perfect state for nine—in some instances, for twenty years.

In Scotland the peat-top is frequently used to form the tiles for drains. It does well in clays which are pretty stiff, but not so well in softer soils. In some sandy soils, the sides not being sufficient to resist the pressure of the top, the tile gradually sinks down and closes up the drain.

Another mode of filling drains is by stones broken into the usual size for making roads. Much has been said against the use of this sort of filling, but when properly executed, the work is as durable as can be required. Where stone can be had, and tiles are expensive, I should prefer it to the tiles; it prevents any vermin from travelling in the openings of the drain, such as rats and mice, which do a great deal of mischief. The great point is, to be careful in covering over at the tops. As soon as wet comes, the sand and other materials sifts down into the stones, and they are choked up. I have found drains carefully executed completely destroyed in the course of a couple of years. If drains are so packed that the water falls down on both sides, the parts over-lapping each other, there is no opening whatever for the sand to find its way down. If drains are carefully cleared in this manner, I will warrant their duration for almost any period of time. I have executed myself about 130 miles of drain in this way, and have had them all filled with stones; many of them have been done 15 years, and there has not been a single instance of failure.

A gentleman in the theatre inquired the nature of the soil in the case alluded to.

Mr. Smith replied, both on a gravel and a clay soil. Many persons have asked whether or not the drains would be choked up in particular positions. I have always asked them what position they referred to, and have opened it up that they may see; and in no instance have I found a single drain choked up. I have the drains of 100 acres all discharged into one pond, provided for the purpose of seeing how much deposit came from the drain; and although we have had heavy rain, I have never seen the water in the pond tinged as if there was much soil in it. I can, therefore, safely recommend stones as a sufficient drainage; and in many parts of the country it is much cheaper than tiles.

The next filling used for preserving the opening of drains is the drain-tile. These are usually made of clay, and burnt. They are very handy and useful; and where stones are not to be had they are to be preferred. But there are districts where the clay-tile cannot be procured at any reasonable price. Lord James Hay has recently discovered a method of making them of concrete stones cemented by lime; in most instances they will come considerably cheaper than the brick-tile, and, if executed on the ground, where they will not have to be carried far, the breakage will be found to be very little, and they will prove to be durable. The cement made of lime is more lasting when covered up than if exposed to the atmosphere.

There are two other modes of making drains—peat-earth has been cut into a shape somewhat like a hollow wedge; and a sort of instrument has been made for the purpose of cutting peat-earth into the form of the tile, so as to produce an opening not liable to the objection of the wedge, which frequently sinks and pulls up the opening. A stone is frequently used to lay the concrete tile upon, and prevent its sinking. It is also made of concrete.

Many persons have expressed the opinion that, in some of the very stiff clays, drains of this sort would not be efficacious, and that the application of the subsoil plough after the draining would have no good effect. With the view of showing the beneficial results, both of draining and subsoiling, I have brought some specimens of different clays, in order to show what improvement can be made. Here is a piece from the Pass of Stirling. This kind of soil has been cultivated from a subsoil, and has been known to produce excellent crops of Swedish turnips. Here is another very hard clay from Yorkshire.

A gentleman enquired how long after the subsoiling the land assumed a different character.

Mr. Smith—almost immediately—in the very first year. It requires some years before it becomes adapted for a turnip soil. I have a specimen of some soil which twenty years ago was so extremely stiff from the alluvial deposit in the Pass of Stirling, that it required to be broken with large mallets, to reduce, mechanically, the great lumps of soil. Thorough draining or subsoiling was never thought of till about twenty years ago, when this land was first drained; and now they get from it splendid crops of turnips, and in almost any season.

A gentleman wished to be informed of the nature of the soil in Mr. Smith's farm.

Mr. Smith—It varies. In some parts it is sandy clay, and in others, clay perfectly impervious to water. *When I first began to subsoil there was not more than three or four inches of active soil, properly so called, for growing plants: after a labor of about fifteen years I have now an active soil of sixteen inches, and can turn over that now in any part of the farm.*

How near are the drains in order to produce that result?

Mr. Smith—Twenty feet. I think a distance of about eighteen or twenty feet from drain to drain is a proper distance for almost any subsoil I shall now proceed to detail the application of the subsoil plough.

When I began to cultivate my own farm, although I had put in the drains, I found they were not so efficacious as expected, and I then began to think of stirring up the subsoil, which gave rise to the idea of the subsoil plough. I thought I must construct an instrument which would execute the work with the least possible power. I made my plough strong, and of that form to which the least resistance would be opposed, at the same time taking care to have sufficient power fairly to stir up the soil.

I will here explain the principle of the subsoil plough. The great principle is, that there are many subsoils, which, though capable of being converted into a good soil, yet if brought up and mixed with the active soil, will so far deteriorate it as to make it for some time sterile. The great point is to stir up the subsoil, still retaining the good soil on the surface. Stirring up the subsoil would, in the first place, very much facilitate the escape of the water into the drains; and in consequence of the passage of the water through the stirred up subsoil, and the attendant admission of air, it would be so acted upon as to be converted into good soil, while at the same time have all the advantages of working the active soil as before.

Upon the application of this principle, I have been successful in every instance. The process of applying the subsoil plough is this: a common plough goes along first, and removes a furrow of the active soil. After that the subsoil plough passes along below, and scarifies the subsoil to the depth of from twelve to sixteen inches, in some instances eighteen inches. This is continued furrow after furrow, the plough going first to lay the active soil on the part already opened up; then the plough comes a second time and takes off a furrow from another part of the soil, and places it on that which is already scarified.

As to the proper period for applying the subsoil plough in places where the drains have much effect, the subsoil plough may be applied the following year; but in clay soils it is important to give the clay sufficient time to dry, and to have it in a friable state; because, in the application of the subsoil plough, when clay subsoil has been recently drained, and it is not sufficiently dry, more harm is done than good: the clay being worked in a wet state is almost prepared for making bricks. If we once work it in that state it is a long period before it recovers its friable property again. Therefore, in soils rather free, the subsoil plough may be used the second year after the drainage.

The proper time to execute drains is the summer season; you can then get it much more tidily done, and the drains are prevented from running. In many places there are little sandy veins and portions of running sand, which are very apt to fall in before the drains are covered up. In the winter season this is almost sure to be so; you may be taken with frost, which draws off the adhesion of the earth, so that it falls down, and fills up the drain. It is best to execute them in grass land before it is broken up for cropping, otherwise it is too soft. Executing it therefore in the summer season on the lee produces very little loss, because the growth of the grass in the after part of the season will be so much increased by the execution of the drains, that you will be repaid for the time lost for the use of the pasture during the time the drains were in process of execution. After the drains have been completed, take a crop from the land, and if the land has been pretty good, it will, perhaps, afford two crops; at all events, one crop should be taken; that will pass over one summer before the subsoil is to be ploughed. During this season, the earth between the two surfaces has time to dry; it is more friable, and the subsoil plough will be more efficacious in stirring it up. It often happens that there are stones in the soil, which must be removed before you can proceed with good husbandry; and it will be found that, in consequence of the contraction of the soil, they have become in some degree loose, and will be turned out very easily by the subsoil plough. In many instances we have stones exceeding 200 lbs. weight, which are turned out very easily by the subsoil plough with four horses.

With regard to the direction in which the subsoiling ought to be carried, I should say at right angles with the drains; you thereby form channels, from the centre to the side, in all directions. In that manner you form artificial channels from the centre of the ridge into the drain; these may partially close up, still there is an openness given to the subsoil, which will permit the water to pass freely.

Having thus applied the subsoil plough to stir up the subsoil, the after cultivation may be the common rotation of the country, such as the farmer thinks suitable. When agriculturists have subsoiled their land, they should lay down the land flat on the surface, without any ridges or furrows. Nothing is more injurious to the land than ridging it up. In the old modes of draining, it was quite necessary to have ridges and furrows; but now, when land is thoroughly drained, there is no occasion for it, and it is hurtful; because when water falls on a rounded-off surface, it immediately begins to sink away to the lower level, and the water which has fallen on the tops and middle parts of the ridges is added to the water on the side, which thus has to bear a great deal more than its own proportion of water; the water carries portions of the soil along with it, and the cracks are constantly filling up by the running of the sand from the higher part of the ridge to the lower part. When a field is laid down with ridges and furrows, especially on stiff land, a great part of the best of the land runs down into those furrows, and is deposited in large quantities at the bottom of the ridge, thereby doing a material mischief. If laid in a flat form you get rid of this evil, and obtain this advantage—that if the water is beneficial to the soil, which it certainly is, you have that benefit equally distributed; every part receives its own water, and the benefit which the water can give.

It is the suggestion of scientific gentlemen that the rain in falling from the atmosphere absorbs a considerable quantity of ammonia; and if there is any affinity in the soil for ammonia, if the soil wants ammonia, the affinity will extract the ammonia from the water, the ammonia remaining in the soil for the nourishment of plants. Where artificial manure is put into the soil, some of the fibrous parts of it will be carried away with the water, and be carried down to the region to which it belongs; and although not so near the surface as it was before, it is near enough for the plants to reach it when they put down their roots.

A peculiar change takes place in any subsoil—it does not matter what composed of—after it is ploughed. This change begins to take place immediately, and the soil gradually goes from the state in which it was before to that of a mould. If you examine a soil which has become mould, it is of a peculiar structure. It appears as if all the particles were connected together, and it seems to have some attractive property by gathering together in that way. Vacuities for the air are thus formed, and there is a tendency to absorb and retain as much moisture as is useful to the plant. If filled entirely with moisture it is injurious to the plant, but if a certain quantity, becomes beneficial; and when a great depth of soil is attained, there is great advantage indeed, in either a wet or a dry season. In a wet season the water flows away, leaving the soil in a dry state; but in consequence of the mouldering state in which the soil is, it is retentive of moisture, and there is a great magazine of water preserved in soil for a dry season. Being covered by the active soil, the drought may penetrate a few inches, but in consequence of the lower part of the soil being covered with this upper statum, it is defended from the extreme action of the rain, and a very dry atmosphere. It will be found that in soil so treated and converted into this mouldy condition, in dry seasons sufficient quantity of moisture will be retained for the use of the plants, which will grow vigorously when land in the same neighborhood is completely dry.

I do not think that it is possible to drain land too much, from the fact that the mould becomes an excellent magazine for the retention of moisture. A circumstance took place in regard to this in my own district, in 1826, a very dry season. In that year there was so long a period of dry weather that the pond was dried up, and there was a great deficiency of crops. I had a field which had been treated in the way I have explained, and I had a crop of hay on it. The hay in the country round produced not above half a crop. On this field, which I had deepened to 16 inches, I had a splendid crop. A proprietor of land in the neighborhood, one of the old school, resisted to the utmost with regard to the result of thorough draining and subsoil ploughing. A person occasionally employed by me was also engaged in doing work for him. He had asked about this hay, and the old gentleman was rather puzzled at the state of the crop, and exclaimed that he really thought I had drained my land so much that I should have no crop at all. He was immediately after this completely weeded to the system, and from that day he has been vigorously engaged in introducing thorough draining and subsoiling all over his estate; and he is now having a great deal of poor soil, on a very rich and productive estate, treated in the same way. Taking the average of that gentleman's estate, he now produces double the quantity of corn that he used to obtain. He now grows potatoes where he could not grow them before, and on the old clay he produces regular and large crops of turnips.

An inquiry was made as to whether there was any land where subsoil-ploughing would be successful without thorough draining.

Mr. Smith—I am much obliged for that hint. Many persons have thought that ploughing the subsoil might do without thorough draining, but there are few instances indeed in which that application of the plough will not be hurtful instead of being beneficial. If you have a retentive bottom which will not allow the moisture to pass away, it must remain till absorbed by the atmosphere: therefore the greater the chambers for receiving rain, so much the longer will the land be kept in a wet state. The practice which now prevails in the English clay districts of ploughing with a shallow harrow, has arisen from the experience of ages, which has taught them that on such soils you cannot cultivate wheat if you plough a deep furrow, because you make just so much the larger chambers to receive water. Even in open soils I would not recommend the application of the subsoil plough till the thorough draining had been executed.

A gentleman asked if it was necessary to repeat the subsoil ploughing?

Mr. Smith—It may not be essentially necessary to repeat the subsoil ploughing, but it is beneficial. repeat the ploughing at every shift, every time I break up my fallow.

Is it always done in the same line?

Mr. Smith—Generally; sometimes I have done it obliquely.

Did you ever try it diagonally?

Mr. Smith—Yes; perhaps it is better to do it in that way according to the drop of the land. The first idea I had was to use the subsoil plough; then I thought I might use the trench plough, and that I might, the next shift, turn up the whole soil, so as to have a complete mixture. In some fields, where the soil was of a better quality, and there was more vegetable matter, I had excellent crops; on the poorer soils, I found that by bringing up the subsoil to mix with the active soil, after the first shift, I did a great deal of mischief. I found, especially with regard to grass, that I could not get that growth of plants which I had before; immediately on observing that, I resolved a third time to go over those fields, and that I would again use the subsoil plough; I have now fallen into the practice of doing so every time I turn. I took up at the first shift, perhaps about 3 inches, even in the poorest field; the next time 3 inches more; and by that means I gradually attained a thorough depth of soil to the extent of sixteen inches. On my own farm I have a thorough depth of sixteen inches, but that is in consequence of using a trench plough on the second shift; and in some fields that was unsuccessful. If I had had then the experience I now have, I would use the subsoil plough at each shift; instead of going down the whole sixteen inches, I would only take up perhaps three inches the first time and three the next, till I had completed the depth of sixteen inches.

A Gentleman—In draining in the summer season, how do you get the level?

Mr. Smith—By the spirit-level, of course.

A Gentleman—The great object would be to get it done cheap; but it would be much more expensive if done in the summer.

Mr. Smith—No doubt; but if I had the choice of executing drains during the winter, at an expense of 50 per cent less than the summer, I would prefer doing it in summer. The efficiency is of far more importance than the expense.

In summer sometimes the land may be too hard?

Yes. In some places, but the bulk of the land will retain as much moisture as will enable you to get through it with the plough. Of course that will vary in different parts of the country. In some places it had better be done when the ground is more moist. Still, I would recommend it to be done, not in the winter, but in the spring or autumn.

A Gentleman—I may be perhaps allowed to say that there are cases where subsoil ploughing is effective without thorough draining—as, for instance, in the soils of the moorlands. I have tried it myself in the moorlands, and have found that by simply breaking up that pan which holds up the water which made the lands dry in summer, and wet in winter, all the water escaped; and lands before not worth 5s. an acre, let for 20s. after it was done. That was certainly a peculiar case.

A gentleman inquired whether the rocks under the stratification were horizontal or perpendicular.

Mr. Smith—There was very little stratification at all. I am aware of what has been stated with regard to destroying the pans, such as are placed upon gravel; but, thorough draining may be applied with advantage to sand or to gravel; and though in the gravel the opening must be at a considerable distance, and consequently the water will be long in finding its way out, if it gets into the channel it will go off easily. These dry soils retain moisture a great deal too long for agricultural purposes. A neighbor of mine was draining his land—a sort of irregular subsoil—and in some places had very considerable ruts or rising ground with sandy and gravel bottom; he instructed his steward to stop the drain when he came to those holes. This was done, and two winters after the gentleman was coursing one day, and all at once his horse sunk over the fetlocks in the soft ground. He called out to his steward to know the cause, and his steward explained that this was the portion of land on which he had desired the drain to be stopped. This fact illustrates what I have said, that when agriculturists have determined on draining a field they should resolve to drain it wholly, otherwise they are only throwing the expense away. Where persons have drained wet parts, and left what they considered dry undrained, they have soon found that the land formerly the wettest was then driest, and when the part which had been drained was ready to receive the seed, they were de-

layed a few days till the other portion was sufficiently dry. In a country where we have much changeable weather, all agriculturists know the advantage of a single day. If a field is uniformly drained all over, you will, perhaps, be able to sow your seed one, two, three, or four days earlier than if it were not drained; sometimes now you lose the opportunity altogether, because it frequently happens that two or three days intervene; very newly dried land will be ready for being sown, whereas other land, which was not drained, would require a week or fortnight before you could sow it.

With regard to the application of thorough draining on porous bottoms, no doubt much good will be effected without subsoil ploughing. I have found it most efficacious on sandy and gravel bottom. I have known instances of land of that nature being very greatly improved after being stirred up by the application of the subsoil plough.

A Gentleman—Your observations apply to thorough draining; many people call it *furrow* draining. I wish to know whether you have any reference to deep draining, and how, as in the case of a spring lying deep, you meet the difficulty occasioned by the water. Two feet and a half drains would not touch a spring such as that described on the diagram. How do you get away the spring water?

Mr. Smith—They are called furrow drains, because they are made in the furrows. I call the mode of doing it *thorough* draining. I use the term to express the result. They are called sometimes wedge drains, top drains and tile drains; but the principle is, that you have the drains sufficiently close together to carry off the water quickly; and then, that the best mode of laying them off for that purpose is to arrange them in parallel lines, and carry them as much as possible in the sloping direction of the land.

With regard to springs, the spring water can do no harm till it enters the subsoil: so long as it keeps below that, you need not care about it. The moment it reaches the bottom of the drain, it finds its way into it, and will be carried off by it. I have found it necessary, sometimes, to carry a drain through the eye of the spring. Springs sometimes come in little channels, at other times in a sheet, according to the nature of the subsoil. When they come in a sheet, the cross-cutting completely scarifies them. If a spring comes out at a round opening and happens to fall in between two drains, I have found it necessary to cut the drain into the eye of the spring. But in every instance where the water flows between two beds, I have found that, by cutting the drain across, it was completely cut off.

I will now describe to you the mode of constructing the draining tile of Lord James Hay. One way of doing it is to construct the tile on the ground, and then carefully place it in the drain; the other is to execute it in the drain as you go along, and immediately to cover it up. The composition of the tile may be varied considerably, but the proportions which I have found to do very well are—

Lime.....	1 part
Blackened cinders.....	0½ part
Sharp fine sand.....	3 parts
Gravel.....	3 parts

making altogether 7½ parts, or 1 measure of lime to 6½ of sand and gravel: the cinders may either be used or not. The gravel selected should not be of a large size.

A question has been handed to me, as follows:—"What effect have thorough draining and subsoil ploughing on the habit of throwing out the wheat plant by frost?" It is well known to be owing to the moisture that the wheat plant is thrown out, and whatever removes the moisture, will have the favorable tendency required. I have know many places where almost every winter the greater part of the plants were thrown out. Now, the result of thorough draining and subsoil ploughing is that they retain the plant perfectly well, and have very abundant crops.

The best of the two modes which I mentioned of forming the tiles, is to make them just where the drain is wanted, and in a few days they will become so dry that they can be placed in the drain. One disadvantage is, that these tiles will not stand carting for a length of time. They require several months before they will admit of being laid one over one another. But, in most instances, the making of the tiles can be accomplished on the spot, and in the course of a few days they may be put into the drain. It is, then, of great importance to cover them immediately with some light soil, free from stones, and to beat them down so as to preserve it from injury. If there are any stones in the soil, they may get down to the tile and seriously injure it.

[The lecturer then exhibited the method of forming the tiles in the drains, which is done by placing the mould in the place in the drain to be occupied by the tile, then laying upon it the concrete, and after pressure by an instrument similar to that used in the former process, drawing out the mould by means of a long handle attached to it for that purpose.]

I have an interesting communication to-day from Scotland, which, though not immediately connected with the subject before us, bears intimately upon it. There are great doubts respecting the propriety of putting seed deep into the soil, or covering it very lightly. Experiments have been made on that subject, but none so conclusively as that which I have now before me, which relates to the springing up of the more tender seeds, the grass seeds; and it shows the great importance of having a shallow covering over them. This experiment was made by the Messrs. Drummond of Stirling, the individuals who first introduced the agricultural museums.

This experiment tends to show the great importance of a light covering to grass seeds. I have made a harrow of a peculiar construction, which reduces the surface soil very much without tearing up the ground. It has no teeth, but acts by little sharp discs, closely set together, which curve very slightly. I have found this instrument also very efficacious if used as a bush harrow.

Continuation of Mr. Smith's Lecture.

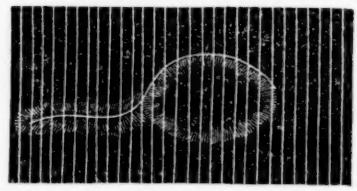
The report of Mr. Smith's Lecture was given from the Mark Lane express, which did not contain the diagrams to which Mr. Smith is reported to have referred when lecturing. After that report was in type we received a second copy of the Lecture in the London Farmer's Magazine, with the diagrams. For the gratification of our readers we subjoin these diagrams with the accompanying explanations. Though not in their original position, they will not be found out of place; and the mere report of this lecture to any intelligent farmer, is worth ten times the annual subscription of our paper.—ED.

I shall first endeavor to illustrate by a diagram, the mode in which this system of drainage operates.

A represents the atmosphere, B the active soil, and C the subsoil stirred by the plough; D represents the part of the subsoil above the level of the drain.—When the ground has been so drained, the first effect that takes place is the drying of the subsoil, which begins generally at the drain, however close and dense it may have been; it begins to crack there by the water giving way. These cracks are continued till they pervade more or less; and in the course of a few months, or perhaps a couple of years, they may have obtained complete effect; the whole of the soil has become dry. The soil which has been worked before on the surface of the subsoil, is in an open state from its former working; the rain falls on the earth, and is received into the intervening spaces, the chambers all receiving so much rain, and the different parts of the soil absorbing a quantity of rain. But while the rain is falling, the drains are carrying off the water from the whole mass. Of course when the rain ceases to fall, this water goes off more rapidly.—At first it will be brim full (if I may use the expression) of water; it is constantly running off, and the water gradually subsides.

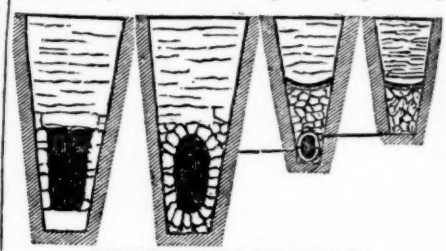
The usual practice is to make the drain two feet deep, but I prefer two feet six inches, for this reason, that it is of the greatest importance that the whole should flow off as rapidly as possible. Persons are apt to suppose that the water will not find its way to a drain at a great depth, but that is in some measure a great mistake. When there is more water to pass through, there is more retardation to the passing of the soil; but, notwithstanding, by giving the drain the inclination which I propose, you have the water carried off much faster. There is also this advantage—that when there has been a long season of dry weather, the whole of the bench becomes completely dry; and in that case it takes much rain to wet it, and if the rain is not very abundant, perhaps the water will not stand higher than B. When water falls upon the soil, there is one very great advantage in having a large bench besides. There is a quantity of air which fills all the vacuities in the soils—the active soil itself, the stirred subsoil, and the subsoil which has been laid dry. When the water has drained off, air takes its place, and the action of the air is very beneficial on the whole of the soil moved, particularly the active soil; and just in proportion as you have a great area to receive the water, and to receive air as the water is drawn off, so in proportion you have a tide of atmospheric air passing through the belt of active soil which is found very much to improve it. We know this soil is very much improved by exposure to the atmosphere; but if it improves in a greater degree by exposure to the sun and light, it is still importantly improved by the passage of the air to the lower strata when the water is withdrawn.

In order to render a field completely dry, it is necessary that a great number of drains should be placed in it; and the position in which they should be arranged will be obvious from this diagram, which represents a field sloping down, with a rising ground in the centre, and rising ground towards the side.



This is made for the purpose of illustrating the mode of laying off drains, and the mode of catching the water when any hollows intervene. In laying off the drains, you will drain the field more effectually by laying them off in parallel lines, than by doing it in any other form: because, if you depart from the parallel lines, you get into corners, and into some spaces not so near the drain, and others too far from it. But in laying it off in the manner shown in the diagram, you get a complete effect on the whole surface. When drains are laid off to run in the direction down the slope, they have a much greater effect in draining than when laid across the field. It is rather difficult to induce persons to believe this, but it is the fact. If carried across the field, though they may catch the water, yet, having less declination it will remain longer at the bottom of the drains. Another objection is, that the water which is there retained, has a tendency to sink away to the sides of the drain, and therefore will probably come up some distance below the drain. But if the drains are carried in the direction pointed out, you cut the drain so that the water constantly sinks into it: and though it may fall a little into the slope of the hill, yet the greater part of it goes to the drain.

[*Sections of the several kinds of drains referred to*]



Paste for Sharpening Razors.

Take oxide of tin levigated, vulgarly called prepared putty, one ounce; saturated solution of oxalic acid, a sufficient quantity to form a paste. The composition is to be rubbed over the strop, and when dry a little water or neats foot oil is to be added. The oxalic acid having a great attachment for iron, a little friction with this powder gives a fine edge to the razor.—*Eng. Pub.*

Important Notice.

There is a large amount due us from Post Masters and Agents in the Western States and elsewhere, mostly in small sums it is true, but our whole resources depend on such small sums, and therefore we hope no one will delay sending on that account.

☞ *One word to our friends.*—We have a large supply of back numbers of the current volume on hand, which ought to be in the hands of subscribers. Will you not help us—would you not be doing your neighbors as well as ourselves a real kindness, by soliciting them to subscribe? The currency is now considerably improved, and bills of most of the states will answer for remittances. PUBLISHERS.

Salt for the Grub Worm.

Mr. Colman—In examining a neighbor's field of corn, I perceived some of it cut off by the grub worms, and deemed it best to examine my own. To my surprise I found they had been destroying my own at a great rate; and had made their way into the garden and were engaged in cutting off the cabbages at the rate of four or five every night. It appeared that they did not touch them by day; and when I went out in the morning I found my cabbages gnawed off close to the ground. I first applied ashes to the hill, but without effect; then soot, but it was like the wind and did not affect them. Scotch snuff was then recommended to me, but it availed nothing against them. The June number of the New Genesee Farmer, however, arrived about this time, in which it was stated that salt was so disagreeable to the grub that it would effectually protect the corn and cabbages. I had tried every other preventive which I could hear off, and determined to make an experiment with salt. I applied, therefore, about two table spoonsful of salt to each hill of corn or cabbage, and laid it so as not to touch the stalk or plant. Not one has been molested by the worms since, though they have begun to eat the weeds in the vicinity, to which I do not make any strong objection.

I send you this statement for the benefit of farmers. From a three years subscriber.

Yours truly, R. H. Jr.

East Bloomfield, Aug. 6, 1842.

We are much obliged to our correspondent for the above communication, and should be glad to hear from him, as he suggests we may do, on other subjects. The observations of plain practical men are of great value; and it is by the accumulation of such well established facts as these that we may arrive at the most important and practical conclusions. The application of so large a quantity as two table spoonsful of salt is probably much more than would be effectual; but this can only be determined by repeated experiments. The salt in such case, beyond the destruction of the insect, is probably not lost, but its benefits may be felt in succeeding crops. As we have before said, we mean to go fully into the subject of salt as a manure at a future time—at present, however, we throw out only one or two suggestions.

Lands in the vicinity of the sea, where sea-weed and sea-wreck are easily obtained, are, with few exceptions, essentially benefitted by the application of sea-weed, rock-weed and kelp, either simply spread upon the grass land or spread and ploughed under. Much of the benefit in these cases is supposed to be due to the salt with which these grasses are impregnated. We have often applied them with the most decided advantages. One of the best farmers of New England, living near the sea, assured us that he estimated the value of salt hay, that is, hay cut upon lands customarily flowed by the tides of the ocean, as equal to five dollars per ton as a top-dressing for his grass land. We have known, likewise, upon six acres of land, dressed chiefly and most liberally with rock-weed gathered on the sea shore, a crop of upwards of twenty-nine tons of hay, weighed, when well cured, at the town scales, to be taken in one year; and we have been familiar for years with a field of about forty acres, annually manured with rock-weed, kelp and sea-wreck, where the ordinary yield was estimated at 120 tons upon the forty acres; and as this hay was almost wholly carried to the market, there could be no essential mistake in the estimate.

These facts present the subject of experiments with salt as a manure as matter of great importance; and as the cattle in the interior, remote from the sea influences and atmosphere, require frequently this condiment or seasoning of their food to be given to them, may it not be inferred from analogy, that lands remote from the sea may be in some degree deficient in this element of fertility, and receive an equal benefit from its application?

The use of salt as a manure is not new at all; but while it has been fully settled that a certain amount is almost invariably beneficial, any excess is directly pernicious. To determine the safe medium is greatly to be desired, and can only be ascertained by repeated experiments judiciously made; and in which all the circumstances are carefully noted.—*Ed.*

Salt for the Grub Worm.

Since sending to the press the communication of R. H. Jr., on salt as a protection against the grub worm, we have received the subjoined, confirmatory of the foregoing, which we have much pleasure in inserting, and beg that we may again and often hear from our correspondent.—*Ed.*

Extract.—*London, Canada, 15th August*, 1842.

I should be glad, through your columns, to thank the individual for his article on applying salt to plants to kill the grub, (not the gentleman who recommended a table spoonful to each plant, but the one who applied it to the plants at the rate of a bushel to the acre). Previous to reading this article, I had tried several things and had planted over and over again and again, but my plants were as quickly destroyed, and I was about to give it up as a failure when your number came to hand and I saw the article on salt. I immediately put about a pinch to each plant, which I repeated a second time, and I had no more grubs. We had, however, at this time moist weather.

On mentioning this remedy to a friend, he said he could then account for a fact, which before had to him appeared a mystery. It was this, when he set out his plants (cabbage) he watered them with water from a salt-pork barrel daily, for about a fortnight, during which he had no grubs; but thinking the cabbage plants had sufficient root, he discontinued, and soon after he found the grub attack his plants as much as his neighbors. The salt in season enabled me to have cabbages in season; and should I receive no other benefit from the perusal of your N. G. Farmer than this simple cure, I shall consider my half-dollar well laid out.

X FARMER.

Rust in Wheat.—Rusted Straw for Cattle; an Inquiry.

We hear many complaints from different parts of the country of injury to the wheat from rust, and of short and imperfectly filled heads. These complaints are not extraordinary; but they are not wholly without foundation. Yet there is ample reason to think that the crop of wheat throughout the country is unusually large and fair.

The inquiry of our correspondent in relation to the effects of giving rusted straw to cattle, are very important. We request the particular attention of experienced farmers to them, and beg that we may hear from them on the subject at an early date. For ourselves, we have used it to some small extent, but always with great misgivings, though with no ascertained injurious results; in these cases, however, we never used it alone without hay; and always felt that the litter yard was a much more proper place for it than the crib.—*Ed.*

Mr. Editor—The wheat in Tompkins county has probably suffered more from the effects of the rust this season, than any other county in the state; consequently the produce will be considerably diminished. It is confidently believed by many that it will fall 50 per cent below an average crop.

In some sections the yield is above an average one, and the berry very plump and fine; while perhaps in districts two miles distant, the failure is only partial,—three miles, there are instances of a total failure.

As is customary with us, and with farmers in all places, many feed much of their wheat straw to their cattle; but this season, the straw is so much rusted that some are apprehensive that *disease* may be produced if *diseased* straw is fed to them—instances being known, it is said, of its having proved fatal.

I am informed, indirectly, by Judge ——— of this county, that some years since, he lost all his stock, and many cattle of his neighbors also suffered much, in consequence, he believes, of feeding rusty straw.

Judge ——— is known among us as a man of much discernment and discrimination, and I have never known his integrity questioned. I will endeavor to prove his statement of the matter, and will forward it for publication; therefore, you need not receive it as "all talk and no cider." Do you or any of your correspondents know these things to be so; if you or they can speak affirmatively, please inform us.

CHARLIE.

Agricultural Intelligence.

The New York State Agricultural Society holds its annual Show at Albany, on the 27th, 28th, 29th and 30th of September. It is designed to be a great occasion for the farmers. Two thousand dollars are to be distributed in premiums; and the competition we have no doubt, on public as well as pecuniary grounds, will be the most extensive and spirited that has ever taken place in the country. No pains will be spared to render the occasion worthy of the State. Better than all other things, it will bring together many of the most intelligent and best friends of agriculture throughout the State and the United States, on an occasion where no party and sectarian interests can disturb the festivities; where they may stimulate and assist each other in their best of all improvements; where reflecting minds will have occasion to contemplate with the highest sentiments of religious gratitude the beneficence of the Creator in his abundant provision for the sustenance and comfort of his creatures; and find stronger and stronger motives to make this provision yet more abundant, that the comforts of life may be so widely extended in our fertile and free country, that not one of his great family shall be sent empty away from the table of his infinite bounty.

The Trial of Agricultural Implements will be on Tuesday, the 27th. The General Exhibition on Wednesday and Thursday, the 28th and 29th. The public sale of stock, &c., on Friday, the 30th.

Farmers disposed to contend for the premiums are reminded that the regulations are absolute, and will be strictly adhered to.

Cattle Shows, Fairs, and Ploughing Matches.

We subjoin a notice of the times of holding the several Agricultural Fairs, which come within our knowledge, within the district where our paper principally circulates, and shall keep it in until the times arrive. We shall be obliged to the Secretaries of the different Agricultural Societies in New York, Ohio, New England and Canada, if they will give us (post paid) the notices of their respective fairs.

New York State Fair,	Albany,	Sept.	28 and 29.
Monroe County "	Rochester,	Oct.	13 and 14.
Ontario " "	Canandaigua,	Oct.	12 and 13.
Genesee " "	Batavia,	Oct.	20 and 21.
Wayne " "	Palmyra,	Oct.	5 and 6.
Livingston " "	Geneseo,	Oct.	4 and 5.
Oneida " "	Rome,	Oct.	11 and 12.
Seneca " "	Waterloo,	Oct.	20 and 21.
Tompkins " "	Ithaca,	Oct.	6 and 7.
Onondaga " "	Syracuse,	Oct.	5 and 6.
Jefferson " "	Watertown,	Sept.	15.
Cayuga " "	Auburn,	Oct.	12 and 13.
Oswego " "	Oswego,	Oct.	5.
Erie " "	Buffalo,	Oct.	5th & 6th
Chemung " "	Fairport,	Oct.	19th.

CANADA.

Durham, Bowmanville, Oct. 18.
Northumberland, Grafton, Oct. 12th

Gray's Elements of Scientific and Practical Agriculture.

This compend is designed to supply a great desideratum among agriculturists. It has been compiled from all the important works on the subject which have appeared in the last few years. Its object is to exhibit the principles of agriculture, and to set before the farmer the chemical and philosophical reasons for many operations with which the practical farmer is familiar. It presents at the same time many new principles and reasons on the business of agriculture. It is the posting up of the discoveries and elements and details of this first of arts and sciences to the present day. It is not a servile copy of any work, though it pretends to little originality. It embodies and carries out the grand principles of Liebig, perhaps the most distinguished of all the scientific agriculturists of the day. "Agriculture, says he, is the true foundation of all trade and industry—it is the foundation of the riches of states. But a rational system of agriculture can not be formed without the application of scientific principles." The nature of soils, the influence of manures, the composition of vegetables and the laws of vegetable life, the changes produced by cultivation upon the soil, the most economical means of preserving the heart of a farm or field, and the reasons of the wasting influence of some plants and some modes of cultivation—all these need to be well understood. The great progress in this knowledge has been the result of the advancement of chemical knowledge and its application to practical agriculture. A great amount of this knowledge is contained in Mr. Gray's work, and presented in a form attractive, while it is scientific, minute and clear. The work indeed must be read and pondered; it must be *studied*, and made familiar. It is a dishonor cast upon agriculture, to suppose that its principles or practice are too free or simple or obvious, to require much thought, study, effort or wisdom. Where the larger works of Johnston, Liebig, &c., are not possessed by the farmer, the work of Mr. Gray will be a great addition, and not be out of place even with those.

Mr. Gray maintains, in opposition to the conclusion of Liebig, that plants do not derive all their carbon from the atmosphere through the absorption of carbonic acid gas. Mr. Gray's reasoning seems to be decisive.

It was the doctrine of chemistry thirty or more years ago, that the animal and vegetable kingdoms mutually minister to each other, and that the carbonic acid thrown by the respiration of animals, combustion, &c., into the atmosphere, was removed by the vegetable world, and that this is the grand instrument of purifying the atmosphere and continuing its purity. This is no doubt the fact. To maintain this grand principle, it is not necessary, however, to suppose that the atmosphere is the only source, though it may be a great one, of carbonic acid, the great pabulum of vegetable life.

Following great men, the author has given some particulars, utterly incomprehensible. Thus he says, p. 39, "The most correct definition of life is given by Bichet, and modified by Whewell. '*Life is the system of vital functions.*" No man can attach a meaning to this definition. Does not the system, in which the vital powers acted, remain after death, till organic changes take place? Then life is not the system. Or, does he mean by "system of vital functions," only the totality of vital operation? Then *life is life;* the great wisdom in the definition. The truth is, as long ago said, we know what *life does, not what life is;* we define it by its operations, and not by its nature or essence, for of this we are ignorant. We are sorry to see any such philosophical abstractions. We are glad they are so few.

In some cases it is very doubtful whether the true philosophy has been given. The mistake is of little consequence, because on the right or wrong principle, the practice will be the same. Thus, the chief use of gypsum is maintained by Liebig to be in condensing ammonia or other elements, so that they may be conveyed into the plant. Now it is far more probable that a small portion of gypsum, potash, phosphate of lime, &c., is necessary for the full developement of the plant. The *organic* elements are four, oxygen, hydrogen, carbon and nitrogen; the *inorganic* are, besides gypsum and the others just mentioned, silex, soda, magnesia, iron, &c. The latter are supposed to be as important as the other to the healthful and powerful action of vegetable life. To a certain extent these may be food and stimulus to vegetables. They may be far more important than to be the mere vehicles of transmitting other substances; and such a principle is far more consistent with the economy of the laws of matter.

Phosphate of lime is essential to the formation of bones in man and beast. In the growth of the young it is rapidly deposited; and in the older, it is necessary for a new deposit to replace that part of the bone which is removed on account of its being worn out. How beautiful that economy which supplies through the food the constant demand for this substance. In the mammiferous tribe, the very milk of the mother conveys this element of healthy growth and action. Small as is the quantity in any article of food, it is constantly passing in adequate supply, removed from the soil by vegetables, and by animal and vegetable substances returned to the earth, again to perform its wonderous work.

Plants take from the soil those substances which are necessary for their healthy action. In time, these must be exhausted, if the vegetable growth be removed, and if they are not returned by manures. For the growth of any one plant, the best manure must be the plant itself, because it restores the elements removed. Thus the straw of wheat would afford the best manure for wheat; the tops of potatoe, for that plant; of corn, for corn. This is the lesson taught us by providence in the natural production of plants. This doctrine is insisted on by Liebig, and maintained by Gray. It may be called the *first element* of scientific agriculture.

The *second element* is the adapting the plant to the kind of soil, or the kind of soil to the plant. This opens before us the broad field of science and practice in agriculture. In the examination of this field, the work of Gray will be highly interesting and useful. We cannot enter upon the details, but we trust the farmer will examine them for himself, for he cannot fail to be amply repaid. C. D.

Fermented Vegetable Manure.

A new method of making *Vegetable Manure by Fermentation* has recently been patented and brought before the agricultural public, by Mr. G. Bommer. Farmers and gardeners have an opportunity of seeing a heap of buckwheat straw under the process in the yard of Mr. Bachmeyer, 119 West Market street, in this city. Mr. B. is the agent of the patentee for this and several of the adjacent counties. By means of his method, it is said, every farmer may reduce his straw, refuse hay, corn stalks, and all other vegetable matter, to rich, unctuous manure, within 15 days, and at very little cost. The preparation is very simple and easy.

This Manure is a composition of animal, mineral, and vegetable substances, and may be made at any season. A compost may also be made with common earth, where straw and other vegetable matter is wanting, which will answer all the purposes of animal manure, and prove a superior substitute for lime, plaster, ashes, &c. The process produces nitrate of lime, potash, ammonia, and saltpetre, four of the most fertilizing properties of good manure. Among those who have tried it with success we notice the name of Mr. J. W. Poinier, of Morristown, and Mr. Pierre Grey, of Madison, whose testimony we subjoin:

"Mr. Bommer has publicly made upon my premises his Vegetable Manure. The result of his process has been entirely satisfactory to me and those of my neighbors who have witnessed the operation, and examined the product.

"The materials made use of in that experiment were straw from my barn, made into a heap on the 5th of May last, and opened a fortnight afterwards. At that time the straw was found altogether decomposed, and changed into a dark Manure, very unctuous and rich, having a strong smell of ammonia, and of good litter.

"And I hereby further certify that this Manure has been used on a field of Turnips, in which it had an excellent effect, and also in my garden, where I obtained superior vegetables, among others some pumpkins of an extraordinary size for the kind, as may be seen at my house. PIERRE GREY."

The Norwalk (Conn.) Gazette of the 12th inst., speaks of a successful experiment, in that place, with *Sedge*, a coarse grass which grows about the flats of the harbor, mixed with sea-weed. Those of our readers who are interested in the cultivation of the soil would doubtless be gratified to see the heap now fermenting in Mr. Bachmeyer's yard.

The cost of this method is inconsiderable. Cleared land, intended for agricultural purposes, (wood land excepted,) under 50 acres $10; more than 50, ten cents per acre additional. On payment of this sum, the method becomes the property of the purchaser for ever.—*Newark Sentinel.*

Lightning Rods.

I wish every farmer would from this time forth, keep a register of all the accidents from lightning which he sees in the newspapers—the deaths from the striking of dwelling houses, the well filled barns laid in ashes, &c., and if he is not then protected by a rod before the summer of another year, it must be from the spirit of procrastination. What is the cost and labor of erecting one, contrasted with the feeling of security,

"When o'er heaven's rending arch the rattling thunder rolls—"

What is the cost and labor of erecting one? Four dollars—not often more. The writer lately put one up on a building 23 feet high—the whole length of the rod was 42 feet, so that 12 feet projected above the building, and it descended 7 feet into the earth. The iron cost less than two dollars—the blacksmith work was a dollar, which I thought too much; and digging the hole and erecting it cost about fifty cents; making only three and a half dollars in all. The part below the roof need not be large,—not more than five-eighths of an inch; the part above should be of three or four pieces of successive sizes from one inch to half an inch, welded together, so as to form a somewhat conical piece, to stand firmly in the wind.

The height above the roof should be one half the length of the building if placed at one end, or one quarter the length if placed in the middle. It should be continuous throughout—not *linked*—but the joints *welded* together; and it should descend into permanently moist earth, which is not often found at a less depth than six feet. It may be kept to its place by small pieces of plank, with holes bored through to admit the rod, and these nailed to the house so as to keep the rod several inches off.

The points, which should be several in number, may be made of small iron rods welded together, and to the rod, filed sharp, and polished. Tinning them might be an advantage. When one point only terminates the rod, it is not always sufficient to carry off silently the load from a heavily charged cloud, hence an explosion follows, which in one instance familiar to the writer, melted the point of the rod into a ball, but without any injury to the house or its inmates, though the noise of heavy artillery was a mere popgun to it.

If lightning ever struck a building protected by a rod made as here suggested, or according to its leading principles, I have not heard of it. A. E. D

Reeling Silk.

The unwinding of the silken cocoon is performed upon principles of surprising simplicity, yet the popular fallacy regarding its insurmountable difficulties has accomplished more to retard the culture of silk in the United States, than any adverse cause whatever. The writer was early impressed with the prevailing prejudice, but the first ray of intelligence was sufficient to dispel it. The first attempts were sufficient to reveal the truth, that this was the simplest division of labor connected with the art of raising silk.

Before entering upon a particular description of this art, it is proper to apprise the reader of the nature of the instrument by which it is accomplished. The standard silk reel of Europe is the Piedmontese reel, and all others combine its principles, which are these If we attach to the bars of a common reel, the fibres of several cocoons and direct the combined thread so that it shall in every revolution fall in the same place, the consequence will be that in drying, the component threads of the skein will be glued together and cannot be unwound. This is why the common domestic reel is inadmissible. The Italian reel obviates the difficulty. It is so contrived that the guides that hold and direct the thread, shall slowly vibrate, by which movement the thread is laid, not at right angles with the axis of the reel, nor upon the same place as the turn which last preceded it. The threads are laid parallel to, and at a little distance from each other, and when they have travelled over the breadth of the skein they are directly carried back again, so that each alternate course crosses the other at a sharp angle. This movement allows the thread time to dry, and by the crossing of them adhesions are effectually prevented. It is somewhat in imitation of the instinctive method of the worm which never lays the threads in parallel contact, but by a swe ping motion from side to side.

The silk reel contains two setts of guides, one for gathering the fibres of the several cocoons into a compound thread which are stationary, and the other just alluded to, for guiding the thread upon the reel, and is of course moveable. Under the first set, is a basin resting upon a furnace which heats it. The reeler sits behind this basin, and she requires an assistant to turn the reel and to perform other services in her behalf.

No other than water perfectly soft and pure will answer, and its temperature must always be below the boiling point, but generally very near it, and it must never be suffered to become foul. Before the reeler commences she must classify the cocoons, by separating the double ones into one parcel and the indifferent ones into another, collecting the excellent ones by themselves. She must be careful not to mix up parcels whose chrysales have been destroyed by different methods, for each will require modification of temperature. She must remove the loose floss and settle in her mind the size of the thread she is to form. If it be a thread of ten fibres, it will require eight to twelve cocoons, for as they run out the filaments become smaller. If it be a thread of twenty-five fibres it will require from twenty to thirty, which is the size easiest maintained, and is about the proper size for present demand. The novice had better commence with unstifled cocoons, for they play off with greater freedom than those containing dead chrysales.

She takes her station, and throwing into the basin a few handfuls of cocoons, she presses them gently under the surface of the water with a brush composed of three or four sticks of broom corn, or a little bundle of fine twigs, until the ends of the filaments have become entangled with them, when she siezes them with the left hand and laying aside the brush, she draws out the threads, hand over hand, until they run free, when they should be fastened aside until all the threads are thus gathered up, and it is important that no more cocoons are put into the basin than are necessary for immediate purposes, for it creates confusion and waste.

She then takes a sufficient number of fibres to form two separate threads, which are at once passed through the lower guides, where they are twisted over each other twenty times, more or less, for the purpose of consolidating and rounding them and dissipating moisture, the greatest care being taken to keep each division distinct. Each combined thread is next passed through its second guide and attached to the bars of the reel. If the water be of proper temperature, the reel may be turned with a quick movement, which immediately brings out the gossamer outline of the skein, beautiful to behold.

After the reel has been turned some time, the threads will diminish in size, some of the cocoons having broken and some run out. This is prevented by constantly attaching new fibres as others become exhausted, and it must be done too without stopping the reel, by gently touching the end of a fibre to the thread just as it passes the lower guide.* This is an operation that requires some tact, but it is easily acquired. When the capsule of the chrysalis is laid bare, it must be removed with a small skimmer, and new cocoons constantly added, few at a time. Every particle of silk should be extracted from the cocoon, which is impossible if too many are playing at one time.

This is the simple line of the reeler's duty, and to perform it well she must observe some collateral directions. She must be patient and reel without waste, and that in the most finished manner without regard to quantity, for that will depend upon practice. Her progress will be slow at first, but she will inevitably acquire adroitness. The nature of the process will soon unfold itself, and she will throw aside her written directions. She will perceive that if the water be too hot the silk will come off in masses or buns, which will break the threads or injure their beauty. If it be too cold the gum of the cocoon will not be sufficiently dissolved, and it will fly up to the guides and break the thread, or leap out of the basin. If buns should be discovered upon the skein, they are to be removed by the assistant before they become dry, and it is her duty to watch the skein and the course of the threads from the guides to the bars, that every thing runs free and smooth. When the reel has been a little time at rest, the threads must be wet before starting from the guides to the basin, or the threads would lose their adhesion, and being dry would break at the guides. The skeins should not be disturbed from the reel until perfectly dry, and this is done by starting the keys in the axis of the reel.

The reelers duty is one of constant activity, and requires quickness of motion and adroitness of touch, natural ingenuity, composure of mind and a determined spirit to succeed. She will be astonished at the result of her exertions. Understanding the principles of the art, the details will suggest themselves to her mind, and she will in a short time turn off one or two pounds of silk daily without the least difficulty. It is certainly a beautiful operation that may well engage the attention of young women, for they will find it an independent, honorable and profitable employment.

J. D.

* This guide shou'd be made of a plate of brass, by drilling a fine hole near its upper edge and sawing a slit to it, the upper extremity opening like the letter V, and made perfectly smooth.

Manufacture of Silk in Ohio.

Mr. John W. Gill, of Mount Pleasant, Hamilton Co., Ohio, manufactured during the last year upwards of $9000 worth of Silk goods. His clear profit on the capital invested was ten per cent. He has three large cocooneries and commenced this season to feed upwards of two millions of worms, which, he calculates, will yield him upwards of six hundred bushels of cocoons, worth at present prices $2000, but much more to him, as he will manufacture the whole crop into various fabrics.

Botany.—Attractive Female Accomplishments, versus, External Show.

M. de Candolle, Professor of Botany at Geneva, while exhibiting at his lectures a very valuable collection of American plants, took occasion to say to his audience that this collection was borrowed, and must be returned by a given day, much to his regret. Some ladies present immediately offered to copy the whole collection by the aid of their friends in one week, and the task was faithfully performed. The drawings, 860 in number, filling 13 folio volumes, were executed by 114 female amateurs in less than six days. The principal part of each plant was colored, the rest traced with accuracy,—the execution was invariably good, and in some instances masterly. It is said that this taste for the arts and for knowledge in general, is universal in that city.

I once travelled on a canal boat in company with a young Swiss botanist, who was educated at Geneva; his whole soul seemed filled with the grandeur and beauty of our vegetable creation; he would often leave the boat an hour at a time to walk ahead and collect specimens of plants and flowers, these he would bring on board to arrange and press in his herbarium. We had several village young ladies, passengers, going west on a visit; they were lively girls, very expensively and tawdrily dressed; but they loved art better than nature; in fact, they had no taste for the glories of the vegetable world; hence they looked upon our foreign Botanist who could not speak English, as they would upon a wild animal whose genius was inferior to their own. But to show that his opinion of them was not more exalted, than their estimate of him; when I asked him what he felt to be the principal difference between these American young ladies, and those of his own country, he quietly replied, "*celles ci sont des poupies, celles la, des anges,*" these here are dolls, there they are angels. This young man had been but two weeks in the United States, but who will say that his first impression in relation to our American young ladies was wide of the mark. He only meant to convey the idea that in his own country the intellectual pleasures are cultivated, instead of those senseless, expensive, fashionable, and demoralizing habits of external show, so universal in these United States.

S. W.

Waterloo, Aug., 1842.

Songs of Birds.

It is quite amusing as well as of real utility, assisting as it does the memory to distinguish the songs of various species of birds, and thus enabling the observer readily to identify them,—it is quite amusing to observe the translations into English of their various ditties. Nuttall gives on the authority of the New England boys, the following as the Bob-o-link's song: "Bob-o-link! Tom Denny! come pay me the two and sixpence you've owed me more than a year and a half ago, go, it's clear, it's clear!" A tailor observed to me that the song sparrow continued to prate round his window, "Prick your f-i-n-ger, suck it, suck it well!" The iron-founder rendered the robin's song into "Skillet! skillet! two legs to a skillet, three legs to a skillet!" and a well known physician in V—— remarked that the same bird often gave him this admonition, "Kill 'em, kill 'em, cure 'em, cure 'em, give 'em physic, physic, physic!" Even the frogs speak English (or rather Irish) as, "Jug o'rum! jug o'rum! jug o' d-h-rum!" or, "Paddy got dhroonk, got dhroonk, dhroonk, 'unk, 'nk!"

X. Y. Z.

Tar for Wheels.

A friend informs us that the use of tar in the Eastern States for waggons and coaches is now, or soon will be entirely superseded by the introduction of hogs lard and wheat flour. To prepare the mixture, the lard must be melted over a gentle fire and flour stirred in until the lard becomes of the consistence of a paste. Our friend warrants us in advising farmers and waggoners to adopt the plan. He says they will never use tar afterwards.—*Iowa Standard.*

ROCHESTER, SEPTEMBER, 1842.

Agricultural Excursion in the Genesee Valley Continued.

(*Account of Crops continued.*)

BUCKWHEAT is raised to some extent, but not largely. I could not learn that in any case it had been used as a green-dressing to be ploughed in, a process not unknown in some parts of the country, and from which I believe much benefit may be derived. The cost of the seed is a small affair; and the preference of such management over a naked fallow can hardly admit of a doubt. A few careful experiments in this case would decide an important question.

GRASSES.—The Grasses cultivated are the red-clover and Timothy or Herds Grass. The meadows or alluvions on the Genesee river abound in rich natural grasses, and are peculiarly favorable to the growth of grass.

In one or two cases, on a small scale, I found the orchard grass cultivated; but merely as an experiment; and I met with two small fields or rather patches of millet, sown probably for the same reason. The stalk was extremely large, which indicated, in my opinion, too thin sowing; certainly, if it were intended that it should be cut for hay. This is a common error. The allowance, with most farmers, of seed for a crop of millet is one peck per acre. If the land is rich, the stalk in such case becomes as large as brush; but where a bushel is sown to an acre, the stalk is small and fine, and the hay, when well cured, of the very best description. I have myself obtained three tons to an acre, weighed, after being well cured, at the public scale.

Of grasses, clover is extensively cultivated. It is sown on the wheat in the spring at the rate of 7 or 8 pounds to the acre. It is commonly depastured in the fall, and the field is allowed to continue in clover the ensuing year, and the succeeding spring is ploughed and fallowed for wheat. In other cases it is depastured in the fall of the year in which it is sowed; and in the ensuing spring the land is ploughed and fallowed for wheat.

There may be said to be three distinct kinds of clover customarily sowed by the farmers; the first is the June or Southern clover; this is comparatively small and ripens early; the next is the Northern or Vermont clover, which ripens late and grows with great luxuriance; the third is the Ohio clover, which holds a medium character between the two. I found that both for hay or for ploughing in with the stubble, farmers differed in their choice, prefering either the Southern or the Ohio clover. The Southern clover makes the best hay and is more easily cured than either of the others. The Northern clover makes a very coarse hay.

The crop in general averages from two to three tons. The opinion of many of the best practical farmers, whom I consulted, is decidedly in favor of curing it mainly by sweltering in the cock. In this case it is cut but not spread, and after lying in swarth until it becomes entirely dry from extraneous wet and slightly wilted, it is put into small cocks and suffered so to remain until it becomes *made*, which can only be determined by good judgment and experience. The cocks are then turned directly upside down, until the dampness gathered at the bottom of the cock is wholly dried off, and are then carried into the barn. I have known this same method practised by some of the best farmers in Massachusetts, and in other parts of New York; and the hay under such circumstances retains its sweetness and color, the flowers and leaves are not shaken off and lost, as when the grass is much tossed about and spread; and the hay proves of an excellent quality.

Timothy or Herds Grass cannot be said to be cultivated extensively, though I think some of the finest fields of Herds grass which I have ever seen, I found on Mr. Le Roy's place near Avon, on the opposite side of the river. I hardly know what could be more luxuriant, even and beautiful. On the Genesee Flats above in the great valley, the hay was most abundant, but as I have remarked of a more mixed character. Mr. Wadsworth is accustomed to feed or depasture some of his fields so late in the spring that the crop of grass is not fit to be cut until the season is far advanced. This divides and extends his time of haying, as the different fields ripen in succession, and his haying season reaches into September. This late-grown hay is, I presume, not so substantial and nutritious as an earlier crop would be, partaking very much of the character of rowen, but this is compensated by the advantages of the feed in the spring. The practice of taking two crops does not, that I could learn, prevail here: and this I believe from an oppressive feeling of abundance rather than that it might not in many cases be done to advantage, for with respect to many of the farmers of this rich section of country, the case must be as with a farmer mentioned in another place, who needed to pull down his barns and build greater, that he might have where to bestow all his goods.

It is difficult to estimate with any great exactness the ordinary yield of these best lands in grass, but it may be safely put down as averaging over two tons per acre. I do not know where finer crops are to be found, and this would be an under estimate of some fields, which I went into.

Hay is, in many cases, stacked, sometimes near the barns and at other times in the fields. I saw but few instances in which these stacks were thatched; but in many the stacks were put up with extraordinary skill and care, and so were pretty thoroughly protected against the weather. Mr. Wadsworth has, scattered over his fields and meadows, a great many small barns in which the hay is stored; and at which places his cattle and sheep are fed in the winter, but not housed.

The proper stacking of hay is quite an art, which an Englishman or Scotchman understands well; and if allowed to take his own way will perform with so much skill, I may add, taste, that I have often admired these stacks for their effectual protection of the hay, when well thatched; and for their beauty as picturesque objects in a rural landscape. But it is an art of which in general a Yankee knows nothing, and in which he is commonly a sad bungler; and this not from any want of capacity, but from a deficiency of patience owing to the driving haste with which most things are carried on among us; and from a habit, but too common, of only half doing most things which we undertake.

Of STOCK in the Genesee Valley and its vicinity, I can judge but very imperfectly. It is hardly to be considered at present as a stock raising district, the land being chiefly devoted to the growing of wheat and grass. Mr. Wadsworth feeds large numbers of cattle upon his meadows, but many of these are purchased and not bred by him. He has bred, however, some improved stock and has several animals of full and mixed blood. Mr. Le Roy and Mr. Newbold, in York, have a considerable herd of improved animals of a high character. I saw them merely in passing, and regretted that I could not go among them; but they are held in high estimation in the opinion of competent judges.

I scarcely found a farm where any considerable number of cows were kept for dairy purposes beyond the use of the family. The cows met with in general were of no particular breed; and were, as far as I observed, in good condition. Perhaps I should except from this eulogium the cows which go in the highway, a race which, in Ireland, are so much valued for their skill in leaping hedges and ditches; and at sales are always commended for their capacity of "getting their own living." I could get no exact account of any dairy product. The average yield of a good cow in new milk cheese was stated at about 300 lbs., and where her milk was devoted exclusively to butter, at 110 to 150 lbs. per annum. These statements, however, were rather conjectural than ascertained; but to all inquiries respecting the yield of their cows in milk, the stereotyped answer was always made, that they gave a *pail-ful* at a milking; an answer which I have always admired for its precision, especially as pails are all of one size!

The general impression among the farmers in this part of the country seemed to be, that while the Improved Durham Stock was decidedly to be preferred for its beauty, size, and thrift, yet for milk they were considered inferior to the best selected cows of our native stock. The first crosses have almost always proved well. How far this impression or opinion is to be valued, must depend on many circumstances. It may be mere prejudice or an opinion taken up at hap-hazard; and but very few persons, if any, in this part of the country have had that long and careful experience with the race, that would justify them in coming to so great a conclusion. The truth is, with a few exceptions, we in fact know little of this stock at present; and the haste with which some men approve or condemn, is well illustrated within my own experience, where, for example, an individual farmer of no mean judgment undertook to give their character with perfect decision, whose whole knowledge of them extended to the owning of a half-blood two years old bull for a few months.

If any man, however, chooses to see this stock in perfection, let him go to the farm of E. P. Prentice of Albany; and if he has any prejudices of any kind against the stock, and is not then prepared to yield every one of them, I can only say he is differently constituted from what I am. Mr. Prentice has about forty animals of the Improved Durham Short Horn, of pure blood and of the highest pedigree. He has one cow with seven heifers of her own progeny along side of her, six of which were in milk. A stock of larger size, of more symmetrical form, of equal beauty, of finer feel, of more thrift, of greater productiveness, I never have seen and never expect to see; nor do I expect to see a herd better kept, nor better arrangements for their keeping. To an amateur, to an inquisitive farmer, who desires to see what skill, intelligence and care can effect in moulding and improving the animal frame, it is worth a journey from Rochester to Albany on foot to see this stock. It is worth almost as much to see Mr. Prentice's stable arrangements and the tidy manner in which every thing is kept. Some few farmers among my acquaintance, in going there, would hardly know that they were not in their own best parlors. This, however, seems to convey a slight reflection upon some farmers' wives; but that is not my intention; and as I would not upon any account be disrespectful towards the ladies, I beg my readers to draw black lines around this paragraph and consider it as "expunged."

I have only to desire that Mr. Prentice would by a lactometer ascertain the qualities of his milk; and then that he would ascertain the actual yield in butter of several of his animals for a week or so; and when this is done, that he would show his benevolent countenance in the New Genesee Farmer and let our readers know all about it. Our friend Tucker of the Cultivator, has too much generosity to complain of this; or to think we have jumped over the fence into his pasture

with a view to catch and bridle one of his best colts. He has a full team always in his own stables.

The farm work in this part of the state is performed almost exclusively by horses. The horses in general are horses of all work. No horses among us are raised for the turf, and the various vehicles in use, wagons, dearborns, buggies, sulkies, &c., have put saddles almost wholly out of use. This is to be regretted, for there is no more manly, healthy, and vigorous exercise, for man or woman, than riding on horseback. The horses in general are of a medium size, and impressed me favorably.

Of the comparative expediency of keeping horses rather than oxen, or otherwise, I shall not speak in this place. Confidently as some persons have decided in this case for themselves, there are yet two sides to the question. A pair of horses is required on almost every farm for market, church, visiting and business from home; but if the team must be extended beyond this, it is well worth considering whether oxen may not be kept to more advantage than horses. We shall now give no opinion in the case, but suggest it for farther inquiry.

Of Sheep I saw some flocks, but not many large ones. Mr. Wadsworth has several thousand; the Shakers at Groveland have a considerable flock; Theron Brown of Wheatland, has a flock of 500 sheep of mixed blood. His wool brought this year 28 cts. per lb., last year 35 cts.; the previous year 44 cts. The average yield of this flock, where there was a large proportion of wethers, was 3 lbs. 4 oz. of washed wool to each sheep.

In his opinion, 7 sheep require a ton of hay for wintering. Hay is valued at 5 dollars per ton. The annual increase of the flock is reckoned at 25 per cent. The value of mutton here is very little, and that increase will do little more than keep the flock good. Giving, however, the flock the advantage of all the increase, the account may be thus stated:

Wool, 3 1-4 lbs, at 28c.	91 cents.
Lamb, 1 in 4 or 1-4th,	25 "
	116
Keeping 1-7 of 500,	71 cents.
Pasturage, say	40 "
	111

Net balance in favor of sheep, 5 cents.

This presents no great encouragement to the sheep husbandry. Mr. Brown is of opinion that swine and cattle are not worth raising beyond the wants of the family. I give it as the opinion expressed by him and some other farmers to me, but as a matter in my own judgment admitting of several qualifications. It is a complex question, in which a good many elements are involved, and my very imperfect knowledge in this case does not authorize me to pronounce with decision.

The value of land is rated here at 50 dollars per acre. The yield of hay estimated at 1 1-2 tons. The hay at the above estimate would be equal to $7,50, and the expense of getting can hardly be less than $2,50 per acre, leaving 5 dollars income in favor of the land. But on a farm it must be considered that there is much land in wood or in fallow, or otherwise unproductive; and there are uncertainties attending all crops and seasons.

I regret the necessity of leaving my journal in this case unfinished; but without occupying more of the columns of the Farmer with my own lucubrations than I am willing to do, I must postpone several miscellaneous notes to another number.

To Friends and Correspondents.

We have the pleasure of acknowledging the receipt from William Turner, gardener to Nath. W. Howell in Canandaigua, a parcel of gooseberries of the finest description in size and quality. They might any where challenge competition; and they show how much may be done by care, pains-taking and skill. "I can't do it, I can't do it; I always have bad luck." This is the stereotyped cry of the Do-little family; a very numerous progeny and a very ancient race, who were born in the afternoon and never yet quite got their eyes open nor their shoes up to the heel. We are happy to recognise one of a different race, who has found out that gooseberries will not always mildew.

Messrs. Elwanger and Barry have favored us with a splendid specimen of the Bolmar Washington Plum, quite as large as hen's eggs, and with some bouquets of exquisite beauty. We have transferred the plums to fair mouths, whose tints are ruddier and perfume sweeter even than that of the richest nectarine; and the bouquets to fair hands, or rather may we not say to flowers even more fair, one of which is as much, even in this land of monopolies, as any one of us poor sinners dares appropriate to himself, though of this bright order we are compelled to say

"Full many a flower is born to blush unseen
And waste its sweetness on the desert air."

We should like to say more, but there is somebody looking over our shoulder.

Garget.—A correspondent inquires, what is Garget? It is a root or plant well known among us, and commonly called Poke, having a reddish stem, broad pointed leaves, and bearing large clusters of black berries. Its botanical name is *Phytolacca decandra*.

J. E. T.—A friend remarks in a letter to us; "I have read the articles of J. E. T. twice over. Such a correspondent is invaluable." We entirely agree with him and regret that the pressure of business engagements deprives us this month of his usual welcome contributions.

Berkshire Farmer.—We have received the first number of the *Berkshire Farmer*, which, having been abstracted from us, we request our friend the Editor to send us another. We had only time to see that it is a monthly agricultural paper of 8 folio pages, published at Pittsfield, Berkshire Co., Mass.; and well printed, at 50 cents per year. It is to be edited by Wm. Bacon of Richmond, whose communications in the New Genesee Farmer, the New England Farmer, and the Northern Light, over his initials and dated at Mount Osceola, have been always welcome to our readers. We promise those, who choose to take the Berkshire Farmer under his care, that it will be instructive, useful, safe, piquant and agreeable. Its editor is worthy of respect for his talents and acquirements; and regard and esteem for his refined taste and his excellent moral qualities. We part with him as a correspondent with unfeigned regret, and welcome him with an equal pleasure to the editorial fraternity.

The Farm House of the XIXth Century.—This publication has just appeared from the press of S. S. Haskell, No. 138 Fulton street, New York. It is a translation of the celebrated French work, an Encyclopedia of Agriculture, *Maison Rustique*, in four closely printed 8 vo. volumes, by Elizur Wright, Jr.; and is to be published in semi-monthly numbers of 48 pages each, in forty numbers, and at 25 cent each.

The Translator is perfectly competent to the task and promises to add some notes, which may better adapt the work to the wants of American Farmers. We have known and owned the work in French for some time. It is a complete work and highly valuable to the Farmers. What the French do in this way they do most thoroughly. We hope all the intelligent farmers in the country will seek to possess it; and we shall from time to time, as the numbers are sent to us, give some account of their contents. It will be embellished with 2000 engravings, and we trust it is not too late to express the hope that the public patronage will be such as to allow it to be printed on better paper and with a fairer type than that in which the first number appears.

Several valuable communications already in type are necessarily laid over. The valuable communications from J. D in Monroe, Michigan, are just received, but too late for any farther notice in this number.

The following description of the visit of our friend to the Elysian Fields, really makes our mouth water. We have no doubt it is every word true, graphic and imaginative as it may seem to any; and we only regret that we could not ourselves have accepted the polite invitation of the principal of this Academy to attend on this interesting occasion. But how we ever got our friend back from this Paradise we know not, unless he was driven out for *looking*, it may be, too wishfully at some of the forbidden fruit; and how he should ever dream, old and rusty as we are, that we could have an ear for this celestial music, is beyond our imagination. "O! the days of auld lang syne." But we mean to go so far this autumn as at least to peep into this Eden; and if our friend Flora, we believe the privileged resident of this charming vicinity, will condescend to give us her particular *locale* we mean to let her know in person how sincerely we respect her talents and sentiments and desire a nearer acquaintance. Here we are treading again upon dangerous ground, a sort of volcanic region, full of combustible matter, and therefore stop.—*Ed.*

Aurora.--Cayuga Academy:

Mr. Editor—I spent two days the past week at Aurora, during the public examination of pupils of this Academy. Let me advise you to visit this charming place; sail on the beautiful lake and feast your eyes on the unrivalled scenery; then luxuriate among the highly cultivated fields, verdant lawns and shady groves; taste the delicious fruit, hanging in profuse abundance in the orchards and gardens; observe the beautiful flowers and clustering vines surrounding the tasteful dwellings; partake of the generous hospitality of the intelligent and wealthy inhabitants, and *(tout beau!)* listen to the sweet music or sprighty conversation of the beautiful and accomplished ladies—and you will agree with me, that Aurora is indeed a charming place. But this is a digression.—

The Academy is the oldest institution of the kind in this part of the country, having been in successful operation for nearly half a century. Some of the ablest men in the state, were, in early life, participants of its advantages. It has permanent funds, which essentially increase the facilities of education. A full board of qualified and faithful teachers are employed, and the apparatus and library are excellent. The course of education deserves especial commendation, for giving a thorough knowledge of the English language. This department is under the personal charge of that well known philologist, Salem Town, author of 'Town's Analysis,' and other valuable works. Mr. Cooper, the Principal, appears well qualified for his situation; and much credit is due to Dr. Thompson, teacher of Botany and Chemistry, also to the Rev. C. N. Matoon, lecturer on Mental and Moral Philosophy. The catalogue of pupils for the past year numbers 138 males and 70 females—total, 208. The examination occupied three days, and was highly creditable to both teachers and pupils. An excellent address was delivered at the close by Gen. J. A. Dix of Albany.

M. B. B.

Rochester, Aug. 18th, 1842.

To Preserve Flowers.—Be careful not to press the flowers too hard at first, and change the blotting paper frequently to absorb the moisture, increasing the pressure as the flower dries.—*Eng. Pub.*

Importance of the Education and Training of the Young.

In that model of a good newspaper, or what in our humble opinion a newspaper should be, the Boston Daily Advertiser or Weekly Chronicle and Patriot, we find some extracts from Horace Mann's Oration, delivered in Boston on the last 4th July. Mr. Mann is the devoted, enlightened, and most efficient Secretary of the Board of Education in Massachusetts. To him the State owes a debt, which no money can ever repay; he has broken up ground, which had lain long inert and barren, and cultivated and enriched and made it productive; and sowed seeds in drills and broadcast over the land, which will continue to bear precious fruit for centuries and ages to come. High as we estimate our own art, and in some respects in importance it yields to few others, yet what is any system of agriculture compared with that moral husbandry by which the seeds of virtue are to be quickened into life and souls are to be trained for immortality?

We labor in our humble sphere that the earth may be made productive for the comfortable subsistence, and be embellished and beautified for the enjoyment and delight of man; but what are its richest fruits or its brightest adornments compared with the adornments of the intellectual nature, and the moral fruits of the heart and mind? We aim to give the famishing bread, and to cause the earth to yield to industry and skill those supplies which God designed that industry and skill should command; and without our art and our efforts, all other arts and all other efforts would be vain. We hold, likewise, that the success and improvement of the great art which we profess, are eminently the work of true philanthropy; and have, in various ways and forms, a serious connexion with man's moral welfare. But we are not vain nor simple enough to place any merely worldly acquisition, any physical improvement or advantage, in comparison with the blessings of high intellectual in its connexion with high moral culture; the bread which feeds and sustains our animal nature, in comparison with the true bread of life, wisdom, virtue and piety; the aliments of the immortal soul.

Mr. Mann's views on the subject of the infinite importance of this intellectual and moral training, are most admirable. We expected from him in this case as much as we could have expected from any man, and he has acquitted himself, so far as these extracts go, as well as any man living could have done. In beauty, in power, in true eloquence, above all in their fearful seriousness and solemnity, we do not know when they have been surpassed.—*Ed.*

"O! better, far better, that the atheist and the blasphemer, and he who, since the last setting sun, has dyed his hands in parricide, or his soul in sacrilege, should challenge equal political power with the wisest and the best; better, that these blind Samsons, in the wantonness of their gigantic strength, should tear down the pillars of the Republic, than that the great lesson which Heaven, for six thousand years, has been teaching to the world, should be lost upon it;—the lesson that the intellectual and moral nature of man is the one thing precious in the sight of God; and therefore, that until this nature is cultivated, and enlightened, and purified, neither opulence nor power, nor learning nor genius, nor domestic sanctity, nor the holiness of God's altars, can ever be safe. Until the immortal and god-like capacities of every being that comes into the world are deemed more worthy, are watched more tenderly, than any other thing, no dynasty of men, or form of government, can stand, or shall stand, upon the face of the earth; and the force or the fraud which would seek to uphold them, shall be but "as tetters of flax to bind the flame."

"Let those, then, whose wealth is lost or jeoparded, by fraud or misgovernment; let those who quake with apprehension for the fate of all they hold dear; let those who behold and lament the desecration of all that is holy; let rulers whose counsels are perplexed, whose plans are baffled, whose laws defied or evaded; let them all know, that whatever ill they feel or fear, are but the just retributions of a righteous heaven for neglected childhood.

"Remember, then, the child whose voice first lisps, to-day, before that voice shall whisper sedition in secret, or thunder treason at the head of an armed band. Remember the child whose hand, to-day, first lifts its tiny bauble, before that hand shall scatter fire-brands, arrows and death. Remember those sportive groups of youth, in whose halcyon bosoms there sleeps an ocean, as yet scarcely ruffled by the passions, which soon shall heave it as with the tempest's strength. Remember, that whatever station in life you may fill, these mortals,—these immortals, are your care. Devote, expend, consecrate yourselves to the holy work of their improvement. Pour out light and truth, as God pours sunshine and rain. No longer seek knowledge as the luxury of a few, but dispense it amongst all as the bread of life. Learn only how the ignorant may learn: how the innocent may be preserved: the vicious reclaimed. Call down the astronomer from the skies; call up the geologist from his subterranean explorations; summon, if need be, the mightiest intellects from the Council Chamber of the nation; enter cloistered halls, where the scholiast muses over superfluous annotations; dissolve conclave and synod, where subtle polemics are vainly discussing their barren dogmas;—collect whatever of talent, or erudition, or eloquence, or authority, the broad land can supply, *and go forth*, AND TEACH THIS PEOPLE. For, in the name of the living God, it must be proclaimed, that licentiousness shall be the liberty; and violence and chicanery shall be the law; and superstition and craft shall be the religion; and the self-destructive indulgence of all sensual and unhallowed passions, shall be the only happiness of that people who neglect the education of their children."

Miscellaneous Matters.--Change of Plants.--The Cut Worm.--The Pea Bug.--The Curculio.--The Spider.--Flies Eating Woolen Yarn.--Summer Potatoes.-Murrain in Cattle.--Wheat and Chess.--Horn Ail.

We publish the subjoined letter with much pleasure. We cannot endorse all the opinions and assertions of our correspondent, and are not willing to oppose them. It is delightful to see these workings of an inquisitive and observing mind; and the letter is of great value, if it did no more than present so striking an example of intelligent and exact observation. The difference between living in the country or travelling through the world with our eyes open or our eyes shut, is beautifully illustrated by such an example.—*Ed.*

MR. EDITOR—Perhaps you may think it strange to hear from a friend in Ohio. I have taken your paper ever since you commenced the New Genesee Farmer, but I do not recollect of seeing anything shewing the manner in which seeds of vegetables mix or amalgamate with others of their own species. On almost all kinds of plants and trees there are false and bearing blossoms, which might be termed male and female, on the same tree or plant. The dust or flour which these blossoms contain, is necessary to form the seed; now if this flour is taken from the male blossom of its own plant or tree, it will produce genuine seed, but if it is taken from another individual of its own species, it will produce mixed seed; hence the reason why apple seeds do not produce trees bearing fruit of their own quality; but the quality of the fruit is not changed, it being the covering of the seed. I have broken open a squash and taken out seeds to plant, when, to my utter astonishment, they produced half pumpkin and half squash, good for nothing for either, except one vine, which produced its original variety. The question may properly be asked, what agent conveys seed from one plant to another? I answer it is the bees, and all other insects that delight to visit the flowers of summer, carrying with them the dust which forms the seed. All kinds of potatoes may be planted together in one field without mixing, so with all kinds of beets and turnips. A white man and negro may as easily mix by working in one field together, as those plants can by growing together; the only time of amalgamation being when in the blossom. I must dismiss this subject for abler hands to finish.

Will you accept some hints on the natural history of some of our formidable insects.

The Cut Worm or Black Grub.

This worm is produced from an egg, generally in the month of May, and grows rapidly, shedding its skin several times, until it comes into the chrysalis state. It remains in this torpid state from 8 to 12 days, depending on the temperature of the weather, from whence it comes forth the perfect miller or moth, resembling the bee moth, though a little larger and of a darker color. Its time of perfection is generally from the first of July to the middle; its food consists of all kinds of vegetables and green roots; it commits its depredations in the night while in the worm state; it goes through with the same operations that the silk worm does, except spinning. The millers deposit their eggs in the ground in autumn, where they remain during winter.

The Pea Bug.

So well acquainted are most persons with this insect, that it needs no description, but the way it gets into the pea is not generally known. The egg is deposited on the outside of the pod; it is of a yellowish color, resembling that of the horse bee, though not quite so large; it adheres to the pod opposite to the pea on each side, when it hatches and bores its way through the pod into the pea, where it is transformed into a bug, and remains there until the next spring, when it comes out and flies about and waits for the peas to grow.

The Curculio.

The insect or bug that destroys plums and cherries, resembles the pea bug in size and color, except the head, which is very long and slender and armed with sharp teeth or a point, with which it perforates the skin in a circular form and deposits the egg, which hatches and bores its way to the stone, which immediately causes it to perish and fall off; this insect can fly. I suppose it is what is called the curculio, though I have not seen it fully described. When this insect is held between your thumb and finger it will make a squeaking noise.

The Spider.

This insect is a friend to agriculture, although it is considered to be disgusting and poisonous, and many there are that will start back and scream at the sight of a spider, as if it were a venomous reptile. This is because tradition and superstition have got possession of our senses. I have been bit by spiders and received no more injury than from a flea; yet there may be some spiders whose bite is poisonous. The spider has eight legs and eight eyes; it sheds its skin several times in the course of its life; it sometimes survives the winter in a torpid state; it is, like other beasts of prey, capable of enduring hunger a long time; its food consists wholly of flies and insects, which otherwise would devour our crops. Look at the multitude of webs in the morning after the fog has left the air, and you will see your field nearly covered, and all of these little nets are set to catch insects. How many thousands are daily destroyed. Yet prejudice has got such hold of our minds that we frequently step aside to crush them and destroy their nests. Whoever is guilty of doing so, is not acquainted with the history of the spider, or they act against their own best interest.

Flies Eating Woolen Yarn.

We often hear our women say the flies have eaten our yarn; but this is not correct. I will clear the flies of this mischief for the good reason that they have no teeth. The insect that does this mischief is a little miller or moth, which deposits its eggs in the

yarn or cloth, which is there hatched and subsists on the yarn or wool and forms itself a cell of the same material, and then changes into the chrysalis state, after which it comes out a perfect miller.

How to dig Potatoes for Summer Use.

Look round your potato hills and where you see the ground is cracked there you will find a potato; take it out carefully with your fingers without disturbing the roots, and place back the dirt carefully, and so on until you have enough for a mess. If this is properly done, there will be no less potatoes to dig in the fall. It operates just like picking cucumbers; they will set more if they have not got their growth, and the tops will not die until they have brought them to maturity.

Murrain in Cattle.

This dreadful disease in cattle is sometimes caused by leeches or bloodsuckers. The cattle swallow them when small in drinking from brooks and marshes. They eat their way through the stomach into the liver, which causes it to ulcerate. They sometimes eat their way into some large blood vessels in the liver, which causes the animal to bleed to death immediately. Some may feel disposed to dispute the above assertion, but I can bring living witnesses that have taken them out of the livers of cattle and put them in a pail of water, and they would crawl just as they do in the brooks. Cattle kept in swampy pastures are more apt to die with the murrain than those kept in dry pastures. I understand that cattle from Ohio do not sell so well in the eastern markets as those from other states, on account of their health. Perhaps there are other causes of the murrain not known to me. I think I have let down one bar at the end of the lane which leads to the field of discussion, and I hope you or some of your able correspondents will enter in and give the matter a fair examination.

Wheat turns to Chess.

It has been stated by some that oats that live through the winter turn to chess, and chess, if sown, will produce chess; so here we have three ways to produce chess and but a part of one way to produce wheat! It is no more absurd than to think that the moon affects the weather or the growth of vegetables.

Horn Ail in Cattle; Inquiry.

Does cutting off the end of the tail prevent this complaint, or is nature imperfect? Tell who can.

Yours, respectfully,

GAIUS KING.

Hampden, Geauga Co., O., 1842.

Conditions at Ploughing Matches.

We have delayed the publication of the subjoined letter until now, believing it would be more seasonable and attract more attention as the Fairs and Ploughing Matches approached, than if given earlier. Its suggestions are all well founded. It is folly to institute any such exhibitions and competitions without prescribing exact rules, and without making those rules absolute and inflexible.

No premium in ploughing matches should ever be given upon hurrying the work faster than at a rate at which the team could work comfortably through the day. A ploughing match is not a race, nor a match against time. The depth of ploughing, the width of the furrow slice, and the angle at which it is laid, or whether to be laid flat or completely shut in or lapped, should all be matters particularly prescribed. So likewise the time of entering, the time for calling the roll, and the time of starting, should be named and strictly and absolutely observed. There is no end to the evils which come in all such cases, from a relaxation of the rules, or from any extraordinary indulgence.

It is said you cannot make farmers come up and adhere to such rules. Then we would give up the competition. But there would be no difficulty in any such case, provided it is understood that all the conditions are absolute, and that the committee will do their duty without fear or favor. In accommodation coaches, how few persons will be found ready at any precise moment for starting; in rail-road and steam-boat conveyances, where the precise minute for starting is fixed and where no grace is ever allowed, not one person in thousands is ever out of season. There is no difficulty in such cases in compelling people to be exact and punctual, and the advantages of such exactness in every department of life are infinite.—*Ed.*

Mr. Editor—I feel desirous, at the approach of spring, to offer a few remarks on a subject, which I was glad to observe brought under your notice by your scientific and practical correspondent, Mr. Adams of Bloomfield, in your January number. I allude to the subject of ploughing,—a work of all others of paramount importance to the farmer. Considering the acknowledged importance of this primary department of agriculture, it seems surprising that so little progress has been made in it. I can only account for this on the principle that Agricultural Societies in America, without prescribing fixed dimensions, or attaching sufficient importance to the *excellence* of the ploughing, have awarded the premium for good ploughing to the competitor who skims over the ground in the shortest space of time, of which we had lately a notable instance in the neighboring county of Wayne.

While this country, in the arts and sciences generally, is keeping pace with the nations of the world, and in many instances going a-head of other countries, it is to be regretted that our farmers, laying aside the prejudices of the past, will not venture upon a style of ploughing more conducive to their real interests than the hurried, superficial mode now so much in vogue. We still hope, however, to see in future Ploughing Matches Mr. Adams' suggestion adopted, —that the dimensions of 8 inches in width, and 5 in depth, be prescribed, and that the time of performance shall be specified—say an hour and a half to the quarter of an acre. The judges ought then to award prizes to those who shall most strictly attend to the directions given, paying due regard at the same time to the furrows being straight, and laid at the proper angle, somewhere about 45 degrees.

The *excellence* of the ploughing, and not the *speed* at which it is performed, being thus made the subject of emulation, we might then hope for a general improvement in the art of ploughing.

Care should also be taken, as Mr. Adams suggests, that a piece of ground suitable for the trial of skill be selected; but until a proper method of ploughing be encouraged by agricultural associations, (as suggested in the hints I have given above,) no farmer would be willing to have his ground mangled and scratched in the manner we have witnessed at some recent exhibitions.

Yours, respectfully,

A Canandaigua Farmer.

Canandaigua, February, 1842.

Western Prospects.--Illinois.

Mr. Colman—Though wholly unused to writing public communications, yet I send you this hoping that a true, unpolished account of the prospects and doings of those living in what was once termed the "Far West," may be of interest to some of your numerous readers.

We are now in the midst of an abundant harvest. The wheat crop is very heavy, of the finest berry I ever saw. Oats, barley, and indeed all small grains, promise a rich reward to the Western Pioneer.

The corn crop is somewhat retarded in consequence of cold, wet weather in the months of May and June, yet should the fall season be favorable, there will be an average crop.

There are great inducements here for the emigrant. Improved farms can be had at about their first cost. Many noble situations are yet "unclaimed," with plenty of timber and excellent prairie adjoining,—the expense of the first ploughing or "breaking" is from two to three dollars per acre.

But although the soil is exceedingly well adapted to all kinds of grain, I think the Western farmer will eventually find it to his advantage to pay his greatest attention to raising stock, particularly sheep. When we take into consideration the low price of land, the short, mild winters, and the small expense of transporting wool, I think that the western farmer can raise it for one third or one half less than the New Englander. Common sheep are readily purchased at from two to three dollars; they grow large and thrive well on our prairies.

We are much in want of good breeds of stock of all kinds. Farmers are waking up in regard to the necessity of improved stock. They are purchasing some good Durham cattle, and we have a few fine Berkshire hogs.

We have some good nurseries, and some fine young orchards just commencing to bear fruit. Here I would inquire whether the wheat crop is injurious to young apple trees? I planted an orchard two years ago, and sowed the ground with wheat the same fall. Many of my trees died, the remainder look unhealthy, while my neighbor's orchard looks fine and healthy; his trees having been obtained from the same nursery and planted the same time, and on the same kind of soil. I have a few peach trees from the seed, planted two years last April, that now have peaches on them.

Building materials are cheap on the Mississippi River. Good pine lumber can be had at almost any landing at from ten to twelve dollars per thousand feet. Shingles from two and a half to three dollars per thousand.

Should you think this or any part of it worthy a place in your valuable paper, you may hear from me again. J. A. S.

Albany, Whiteside Co., Ill., July 19.

From the Maine Farmer.

Prevention of Smut.

I have for the sixteen years last past, with complete success practised the following method, viz: Washed the seed wheat and drained off the imbibed water through a common basket. In this moist condition put it into a tight tub, long box, or trough; and for every bushel so prepared, dissolve two ounces of the blue vitriol in warm water, turned it into the wheat, and with a shovel stirred it so that the liquid should penetrate the whole mass. This may be ascertained by the color. The wheat will assume a greenish cast, where the liquor has come in contact with it.

This method of preparing our seed has become almost universal in this neighborhood, and we hear nothing of smut except from a distance.

OLIVER CROSBY.

Postage and Fines.

Some remarks have been made in a former number of the Farmer in relation to writing on the margin of newspapers, and in defence of the course of the postmaster general in fining individuals for merely writing their names or compliments. The object of the post-office department is the accommodation and not the annoyance of the people; and when its officers go further than this in restrictive power, they become tyrants. Writing on newspapers to evade the payment of letter postage, is defrauding the government, and should not be allowed; but no man would ever write a *letter* merely to say "A. B.'s compliments to C. D.," consequently fining a man for writing it on a paper, must be regarded as a wanton exercise of arbitrary power. How much more so then, to make him pay five dollars for merely putting his initials on the paper, which cannot in any possible way defraud the department. JUSTICE.

Intellectual Culture.

Feeling somewhat gratified with the flattering notice bestowed on my former communications, and not willing to appear indifferent to, or negligent in returning a compliment, or in endeavoring to repay a "good turn," I have resumed my pen; not, however, without the conviction that many, very many, mothers and daughters of the surrounding country, enjoying superior advantages, both of acquired and natural abilities, are far more capable of enlisting the attention of the heedless and casual reader, and of inspiring the minds of the too *busy-workers* with a love for intellectual culture and general improvement. Yet I do not feel unwilling to render my "mite" in a cause replete with interest, to the farmer as well as the statesman, to the farmer,s children as well as the collegiate student.

The first most natural duty of man, appears to be, to provide for the body sustenance and raiment. Our appetite prompts us to satisfy its cravings for food, our pride and ambition and the sense of heat and cold induce us to provide clothing; but often, through too much care and anxiety for these, the appetite of the mind becomes weak and unhealthy; its perceptions and energies are blunted; its longings for knowledge and inquiry into the wonderful operations of animated existence and inanimate matter are suspended, and finally almost extinguished, until some whisperings of conscience penetrate the ear of the soul, or some thunderbolt of omnipotent power startles anew into existence the hushed and neglected spirit, the crushed and abused intellect, the intelligent soul, which has been entrusted to our keeping.

The enquiring mind cannot be satisfied and can never be stilled. It is boundless in its desires, and unceasing in its efforts. It is capable of infinite expansion and endless duration; but dependent upon the will and judgment of its possessor for a proper cultivation to bring it forth in its native strength and majesty, in its purity and dignity, in its beauty and loveliness.

My feelings upon this subject induce me to address myself mostly to the fathers and mothers employed in the busy occupations of agriculture. Although I have not the experience of mature age, yet I hope the years employed have not been altogether unimproved; and while I would speak with the utmost deference to those older and more experienced than myself, I would solicit their attention to a subject involving the deepest interests of every individual. All acquainted with the history of the farming population of our country, are aware that they have had, what is generally termed, rather hard times to get through the world with credit and honor, and secure to their posterity a competence, an independent station in society. They have, as a general thing, commenced life, not in *affluence* and *ease*, but with a few hundreds of dollars, and many with nothing but health and a vigorous determination to lay for themselves a foundation of wealth and its advantages. With little or no education, and few opportunities for improving it, with few clothes and no money, how many of our forefathers have commenced the cultivation of the wild and cheerless forest; hardly giving themselves nature's just repose, so intent were they on acquiring by the labor of their own hands, a support—yea, more—a comfortable, cheerful home for their children.

But while they labored to secure for their families the necessaries of life, they seem almost to have forgotten that the mind, the foundation of all rational and exalted enjoyment, had been committed to their united care for direction and improvement. Amidst the bustle of business, the fatigue of labor, and the anxieties, cares, and perplexities of life, the cultivation of the mind has been too much neglected; and the false and injudicious opinion that the farmers had no use for much education, that there is nothing in his pursuits to draw forth the intellectual spirit within him, and that it is of no farther importance to him than it affords facilities for the accomplishment of business; to advance his wealth and influence, has by degrees, detached, in a great measure, from his noble and generous heart, the purest sources of human enjoyment. That part of the subject has been too willingly relinquished to the nothing-to-do and professional classes. But it ought not, it must not be thus.

Upon the father, as the head of the family circle, devolves the duty of establishing a course of regular instruction at the fireside; and the mother should be diligent and unwearied in her efforts to have those regulations observed and adhered to. But, says the busy farmer, what time have I for instructing my children. I let them go to school in the winter, and if they do not learn it is their own fault. But fathers! reflect one moment. Your children's characters are moulded by your own hand; and their present and eternal happiness may almost with truth, be said to rest upon your conduct. Let the father set the example—let him, in conversation, by reading and study, impress upon the youthful minds of his children the necessity, the advantages, the happiness, and the duty of intellectual culture; let him but succeed in the single effort of inculcating a love for reading, and then select such books as will both enliven the imagination and enlighten the understanding; that will raise the ambition and create a thirst for improvement; that will awaken the curiosity and induce meditation; that will fire the soul with courage, animation and perseverence; that will establish a love for virtue, religion and justice; and you will have little trouble to keep that child in the path of rectitude, in the road to knowledge, in the straight and narrow way that leads to happiness here and infinite enjoyment hereafter.

But says one, I have no leisure for reading anything more than my political and agricultural paper—I can scarcely spend time for that—and as for buying books for my children, I have no money to spare,—there are other things that must be attended to for all that. But what is it that must be attended to? a few more acres of land purchased? a fine span of horses and a few more cows? Or perhaps these things are already purchased and the money must be made out. Well, I am glad for one that you can have these things; I am heartily rejoiced to see the hard working man enjoy the fruits of his industry and economy. But—that little conjunction, but, has got a word to say—does the father, the lawful possessor of a rich and productive farm, the honest and rightful owner of fine horses and sleek cattle, of numerous herds and flocks of every kind, will he say, I cannot afford time to read anything but a paper or two? that I cannot afford a few shillings or dollars to purchase books for my family? Does he fancy that the all-wise, bountiful, benevolent father, the author, creator and preserver of himself, his family, and his possessions, will, at that great and awful tribunal, say unto him, "thou good and faithful servant, enter thou into the joy of thy Lord"? Think you that he will believe that you had no time to devote to the improvement of the mind; that you had no time or talents for the instruction of your children; no money to purchase for them the written volumes of information and knowledge? Ah! there is little doubt, there is but one conviction as to that final opinion, that eternal decision. FLORA.

Brutus, Cayuga Co., August 7, 1842.

For the New Genesee Farmer,

On Threshing Machines.

MR. COLMAN—I noticed in your July number of the Farmer, what you say as well as what some of your correspondent say in regard to threshing machines. If you have no objections, I would like to have my *say* on the same subject.

In the first place, with all due deference, I dissent entirely with you and your correspondent Y. in regard to this "partnership" or "company concern;" for the simple reason, that it is not often that two or three farmers can be found that are equally careful and particular in the use of machinery; and without care and attention, the best and strongest will sometimes break or get out of order. I will state a case in point, and I have no doubt there are many others of the same stamp.

About six or seven years ago, four of my neighbors purchased in company one of Fox and Borland's machines. The first year, each one threshed out their crops, and all went very smoothly. Two out of the four were careful men, and, when in their possession, all was right. But mark the difference; the fourth partner, after using the machine, neglected to remove it under cover, and left it at the back side of his barn exposed to the weather, until it was wanted again the next season. When another of the owners was desirous of threshing out some rye, he sent for the machine, which was three miles off, and after considerable time had been consumed in cleaning, oiling, &c., every thing prepared, the horses hitched on, the machine started, when lo, and behold! one of the cogwheels was found to be broken, and instead of threshing, the hands were discharged, and he was obliged to send to a machinist to have it replaced, which took several days; and the consequence was, the flail had to be used to thresh for immediate use, and a proposition was made to sell out and close the concern. "What is every one's business is no one's business," of course the machine must suffer.

Now, sir, I raise but little grain of any kind, still I find it a slow operation to beat it out with the flail; besides there is considerable waste, in its not being threshed clean: to be sure, the cattle will not dislike it any the less on that account, but to say the least, it is a slow and tedious operation.

This reminds me of the Dutchman who was asked why it was that his horses were always so fat, to which he honestly replied, "I tont know, for I gives dem notting but straw, and dat is not half threshed." It is presumed he used the flail, or what is more common with them, beat out the grain with his horses feet.

The machine made at Hilledale is, I believe, Allen's patent, and a very efficient one it is too; and the low price for which it is sold, is a consideration not to be overlooked in the present depressed state of the times.

My objection to Hibbard's machine is, that it takes up too much room—cannot be worked in stormy weather—too much time consumed in preparation—requires a driver, and from the description, too complicated. I concur in opinion with your correspondent Y, that a two-horse power is preferable, as it costs no more, and can be worked by one horse if required. An endless-chain power can be placed on a barn floor—takes up little room—can be removed from one barn to another and put in operation in a few moments.

One object in addressing you this communication, is to answer the inquiries contained in several letters lately received on the subject, and whether "Hale's power and thresher hold the same place in my esteem as it did when I recommended it to the notice of the farmers, in the third volume of the Cultivator in 1837."

As I observed before, I cultivate but little grain, say from 200 to 700 bushels of all kinds; still I considered a threshing machine necessary, and procured in 1836 one of "Hale's Endless-chain Power and Threshers," which I have used ever since, for threshing, sawing and grinding; and what is very extraordinary, no accident has occurred, nor have I expended one shilling for repairs; and it is now in as good order, with the exception of the floor on which the horse walks, which is much worn and may require re-

placing in the course of one or two years. I can, therefore, say that "it still holds the same place in my esteem that it did in 1837;" and that I have never regretted the outlay, and consider it one of the best machines that has ever fallen under my observation.

From the description of "Hibbard's Power," I should think it complicated; not so with Hale's, which I will attempt to describe. It is a self-supporting chain, with a wood floor, running on an inclined plane, and occupies a space of three by ten feet. Although the box in which the horse walks is narrow, out of four horses only one proved so refractory but what they were made to work; and to work it to advantage, it requires a heavy, free, quick-stepping horse, with which from 60 to 70 bushels of wheat or barley, and from 80 to 100 bushels of oats can be threshed in one day. The thresher is an open or skeleton cylinder and concave, set with small teeth about 1½ inches long, secured by screws, and with the exception of breaking three or four of the teeth with a root, no accident or expense has occurred.

In 1841 I procured one of Pitt's *Separators and Fanning Machines*, and attached it to my thresher, which does not seem to increase the labor of the horse but a trifle, and delivers the grain clean for the bag; this I consider a great saving of time and labor; besides the separation is more complete. When the threshing is performed at one operation and the fanning at another, it requires more room on the floor, and it generally takes as much time to clean up as it does to thresh. With two men and one horse, I can now thresh, bind up the straw, stow it away, and put 100 bushels of oats into my granary, in as good order as when passed through the fanning-mill separately, and I must say I prefer to have the two operations performed at the same time.

Mr. Pitts is now in your section with some of his machines, so improved that they will thresh and clean as much grain, I will venture to say, as any other now in use; and I have no doubt a descerning public will duly appreciate their value, and encourage an industrious and ingenious mechanic.

It has been said, with how much truth I will not pretend to say, "that Pitts' machine is in advance of the age—that the farmers are not prepared for so perfect a machine." The price at which he holds them seems to be the greatest objection: still, when we take into consideration the advantages they have over others, viz: can be used in an open field; will thresh and clean at the same time, as much grain, and do it as well, if not better than any other machine, with the same power and less hands, it cannot after all be considered a dear machine at $250. His horse power is very strong and works remarkably easy, and is so geared as not to be easily put out of order.

At the time I purchased my machine, Mr. Hale manufactured them at Waterford, but soon after removed and established himself at Rome, where, I have been informed, he made some improvement in his thresher. This establishment was burned down a few years since, and he then removed further west, but to what place I am not advised. It would be well if he would make known his whereabout, by an advertisement in the Farmer.

From the six years experience I have had with his machine, I would recommend them to the farmer who cultivates from 600 to 1000 bushels of grain, and to the farmer who cultivates his thousands of bushels, I would, without any disparagement to others, advise the purchase of Pitts' Thresher and Separator, as well for economy as dispatch.

C. N. BEMENT.

Three Hills Farm, August, 1842.

Wheat was selling at Chicago at 62½ cts., Aug. 23. At Buffalo, 82 cts., Aug. 29.

Reply to John Farmer on a National Tariff for protection.

Mr. Colman—Your correspondent, John Farmer, travels without his host when he undertakes to suspect me of mistating facts. Had he been as well informed on the subject of our National Tariff, as he is refined and witty, he would have known that the high tariffs of 1828 and 1833 did not *receive* even a *majority* of the *votes* of the New England States.

The votes from the Journal of the U. S. House of Representatives on the tariffs, from 1816 to 1833, will determine this. I would also advise John to read Mr. Saltonstall's report from the committee on manufactures, March 1st, 1842. He will then learn, that the duty on American cotton as proposed by that committee, is made as Mr. Saltonstall asserts, "to conform to a statement made by Edw. Gray, Esq., on manufacture of Ellicott's Mills in Maryland." The Yankee Cotton Memorialists tell the committee plainly, that the domestic articles of most of the white, and many kinds of colored cotton goods, need no protection, that they supply not only all the home market, but that they are exported to the average amount of $3,000,000 annually.

John Farmer asks why are the New England Factories closed and their hands unemployed at this time. I will let a manufacturer of my native town answer the question; he says, "we have four cotton factories and one of negro cloth now closed;" I asked him if a protective tariff would help them, he replied "that their own cheapness was a sufficient protection, that we had all the home market, fine prints excepted, with a fair demand for export; that over-production, from home competition and the vast improvement in machinery, had long been the cause of very restricted profits to the manufacturer, and that the present stagnation of trade precluded sales even at the lowest profits; hence the necessity of producing less."

But John Farmer does not seem to know that the manufacturing interest of the United States has been fostered more than any other interest, and that its increase has been in full ratio and proportion to the increase of our agriculture and commerce. In proof of it, our imports for the 3 years preceeding the first embargo, averaged 22 millions of dollars per annum more than in the year 1840. Since 1808, it is computed that the machinery erected in New England alone, is equal to the labor of two millions of individuals. It also strikes me that friend John has an exceedingly *nutshelled* view of the ramifications of our foreign trade, when he says that "specie is the only article with which we at the north can pay a foreign debt." We paid eight millions in the article of flour alone last year, to say nothing of our other northern exports. But is not the north as directly interested in the exports of the south as the south itself? If John will attend an abolition lecture he can there learn the fact. The north manufactures and carries for the south, and receives its pay in bill on England drawn against cotton, rice and tobacco; and at this time bills are so plenty in the New York market, that specie will pay a freight from England to the United States; so far from our specie running out of the country at this time, the tide has now turned and specie is running in, to fill up the vacuum made by the explosion of our paper bubble. Hence it appears that it was a high tariff and an inflated paper currency, which drove our specie out, and that a reduced tariff and sound currency are bringing it back again. So far from specie going out of the country, it never goes out when it is indispensible for a currency at home; but when bank paper can be made not only to represent specie, but intrinsically to supply its place specie has no longer any office to perform here, and it will of course be exported where it is of more legitimate use.

I will not accuse John Farmer, as he did me, with wishing to mistate facts, when he says that "our specie has gone out of the country in an uninterrupted stream," I only want to show him that he is at issue on that point with the report of the Secretary of the Treasury. Mr. Forward sets down the imports of specie into the United States from 1821 to 1841, at $181,501,510, while our exports for the same time were only $133,759,910. As much specie is brought over by private immigrants which is not taken into the above account, the amount of our imports of specie is probably much larger than this exhibit. During the present year, 1842, the import of coin has been unusually large. So that there is but little doubt but that for the last twenty years, in spite of all our paper substitutes, the specie of these United States has increased at least fifty millions of dollars.

The difference of opinion between John and myself, is simply this. I want all our great national interests, agriculture, manufactures and commerce, protected by sound and equal laws; but he seems to embrace the delusive notion, that if we stimulate manufactures by taxing the other interests, the home market of the farmer will be so much increased by it, that he can easily dispense with that foreign trade based on exports, which has for the last twenty years furnished us so many luxuries, and increased our specie to the amount of fifty millions of dollars. S. W.

Waterloo, Aug, 6th, 1842.

Niagara Agricultural Society.—Rule of Premiums.

This Society, whose fair is fixed for the 18th and 19th of October, have offered $500 in premiums. This does them much honor. They add farther, what ought to be considered every where as absolute, that the conditions of competition and premiums will be invariably adhered to. The crops, likewise, which will receive the premium, it is stated, will not be the greatest; but those which are raised at the least expense. We demur entirely to this condition, as its direct effect will be to discourage effort and cultivation. The great object of all premiums in regard to crops, should be to see *how much* can be produced on an acre; and the whole method and expense of cultivation being detailed, any man can then judge for himself whether the increased crop will pay the increased expense; or whether such cultivation be profitable. But in the other case, by the above rule, a premium may in fact be given for negligence and parsimony. An application was made not long since to an Agricultural Society for a premium on a crop of grain, as well as we can remember, where the applicant rested his merit in getting a large yield without *having applied any manure, without having ploughed more than once, and without having bestowed only the most superficial after culture*. That is, he wanted a premium for the natural fertility of his soil, which was not due to himself; or in other words, he wanted a premium for having done nothing, which can hardly be recommended by the Society as the best mode of improving agriculture. To determine the comparative profitableness of crops, an entirely different set of premiums and rules should be instituted.—Ed.

Woolen Rags for Manure.—About 20,000 tons of these are annually consumed by the farmers in the South of England. They are said to warm the land. The good effects extend to the second year.—*Johnson.*

Red Cedar—If the lining of drawers in which clothes are kept is made of pencil cedar, no moths or other destructive insects will get into them. This wood is cheaper than wainscot or mahogany, and gives an agreeable perfume to the clothes.

Condition of the English Farmers.

DEAR SIR—In my communication published in the July number of the Farmer, I attempted to establish two points, viz: that the climate of England is more favorable for agricultural purposes than that of this country; and that the farmers of England do not fare so poorly as the letter of S. W. would lead us to suppose. In proof of the latter position, I quoted from a recent publication of Wm. Howitt. You are quite correct in supposing that he is not describing the every day life of farmers, for I gave and her quotation in which he says "such is a specimen of the *festivities* of what may be called the middle and substantial class of farmers; and the same thing holds in degree to the very lowest grade of them." As this description holds good, in degree, from the highest to the lowest class, I mean of farmers, so does it, in degree, from their days of festivity to their every day fare. Now you must not suppose, that, in giving Howitt's spirited description of the good cheer of an English farm house, I was advocating the introduction of similar extravagance amongst our farmers. I was only attempting to prove that the English farmers were not reduced to that miserable diet described by S. W. The farmers alluded to are, I grant you, many of them merely tenants, not like ours, freeholders, owning from one to two or three hundred acres of land, but surely this makes my case stronger. At any rate, I cannot agree with you that it is fair to draw a comparison between the substantial freeholders of this country and the laborers of England, whose only wealth consists of their daily labor. It is neither the climate nor poor living, which induces the English farmer to leave the land of his birth, and his early associations, to seek a home in a strange land. I am satisfied that in no other climate can man and beast endure an equal degree of labor and exertion with so little fatigue; and I am equally satisfied that no class of men need to live on better fare than the English farmers. There are many other circumstances too, in which the English farmer has a decided advantage over us; he has at all times a market at hand, where he can get cash for his produce. Every farmer lives within reach of two or three towns where weekly markets are held; if he wants to buy stock he knows where to go for it, and if he wants to sell grain or produce of any description he knows where to take it; and is sure to meet with competitors ready to pay the value in cash, so that when he has payments to make, he can provide for them without any sacrifice of property.

I have said so much in favor of England as an agricultural country, that I fancy I hear you exclaim, "if this be a true picture, why leave it?" Wait, and I will tell you. You have, as yet, only seen the bright side of the picture, let us reverse it, and what are all the advantages and conveniences above enumerated, when we find on the opposite side the titheman, the exciseman and the tax gatherer? The last named functionary has his hands constantly in your pocket; the other is peeping about to see that you do not convert your tallow into candles, your barley into malt, or gather the hops which are growing wild on your fences. But the visits of these gentlemen are as nothing in point of injustice and vexation when compared to the visit of the titheman. To give you some idea of the working of the tithe system, I will instance the parish in which I lived. It was the custom to take the tithes on a seven years lease, the rector appointed the valuer, and we had the option of taking them at his valuation, or suffering them to be collected in kind. We always chose the former as the less vexatious of the two. You will perceive that on this plan the best farmers had to pay the highest tithe. On one occasion, we were rated at 9*s*. 3*d*. stg. per acre; produce was high when the valuation was made, but it kept falling, so that we had a very hard bargain. We presented a remonstrance to our rector and petitioned for a reduction, but his cool answer was, "No, when I consult a physician, I take his prescription." Meaning, that having employed a person to value the tithes, he would abide by his judgment. We certainly could not complain of any injustice in this decision, because if prices had risen in the same proportion we should not have been called upon to pay any more. But the hardest feature of our case was, that we had to pay him whether we went to his shop for physic or not. He drew between two and three thousand pounds per annum from the parish, and had all the duty done by curates for about £200 per annum. We never saw the rector except for a month, which period he was compelled by law to reside on his living, but he made it a month of Sundays, for he came on the Saturday night and left us again on the Monday morning after the fourth Sunday. Is not such a system as this enough of itself to drive a man from his country, let that country, in other respects, be ever so desirable to live in?

I recollect seeing a letter from an English farmer who had emigrated to this country. Did he express his joy at finding a climate and fare superior to what he had left? No! he commenced his letter by thanking God that he had found a spot of ground where priest had never set his foot, and showed all through his letter a spirit of exultation at escaping from the grasping rapacity of the titheman.

Yours, &c. B. M.

Climate and Productions of England compared with the United States.

MR. COLMAN—Your correspondent B. M. comes down upon me with a wet sail, for giving the preference to the climate and agricultural products of the United States over those of Great Britain.

As he very gravely asserts that "English horse beans are equal to our Indian corn for all feeding purposes," I shall leave him alone in the glory of his argument, and confess that I was in "error" when I gave the preference to the agricultural productions of the United States over those of England. But to shew that I did not speak without book, and that I had some authority for my "errors," I quote the opinion of an English master in rural economy. Capt. Barclay, in his agricultural tour through our country in 1841, invariably extols our soil and climate in the most elaborate and even extravagant terms, while he is very general and unsparing in condemning our want of skill, and slovenly neglected system of agriculture. To account philosophically for our defects, he charges them directly to the overflowing bounties of our superior soil and climate; he says "where nature is bountiful man is invariably indolent." In England, where nature gives less, man is more provident and industrious. Struck with admiration at the luxuriant Indian corn in the neighborhood of Philadelphia, where it was grown for soiling cattle and horses, Capt. B. frankly admits that the cultivation of our "corn entirely supercedes the culture and use of other green crops as food for stock."

In equinoctial America, where the cereal grains and tropical fruits alike abound, Indian corn is almost the only bread stuff of the country. Humbolt tells us that there is but one plant, growing from the earth, which yields as much food to man; the plantain (Musa paradisiaca) is supposed to yield more nutriment off a given space of ground; but its various adaptation as food for man and beast, bears no comparison to the Indian corn.

In Spain, Portugal and Italy, Indian corn is cultivated to a great extent as food for the poorer classes, and I here once more venture to repeat, that if Great Britain, by some inversion of nature's laws, could be favored with our warm, stimulating sun, so that her soil would grow Indian corn, we should hear no more of her hungry population feeding on bread made of "damp mouldy grain."

B. M. takes a narrow view of our extended corn growing region, when he says "that in a good corn season other crops suffer;" a large crop of corn in common with other grain is very general in Ohio, Indiana, and in other states south and west. The present season with us, is called favorable for all crops except corn, and yet at this time, 20th July, we have here on the "Seneca level" the Dutton corn in full bloom, with all the cereal grains on the eve of a redundant harvest. S. W.

Condition of Ireland.

The subjoined interesting letter should have been given sometime since; but was accidentally overlooked. It will not fail, however, now to be read with pleasure; and we have strong hopes that it may be followed by others.

Dublin, December 14th, 1841.

M B. BATEHAM,—

Dear Sir—I little dreamed two months ago this day, when we were at the Fair in Alexander, that I should be in so short a time in the old world. But so it is; although I cannot realize that I am so far from home. Steam has almost bridged the Atlantic, and brought the two worlds to be near neighbors. Three weeks to day I was in New York, and I have been nearly a week in Ireland.

My visit to this country is one of business as wel as pleasure, and I shall see all that can be of use or interest to a practical man. I shall make myself familiar with their methods of putting up their beef and pork, as well as butter. I shall examine their cattle, hoge, sheep and horses, and see their mode of farming, and if so that I am blessed with a safe return to my own dear country, I shall be able to tell our farmers all that is worth knowing upon these subjects.

I have already filled many pages with notes upon these points, which at a more leisure period may be condensed or elaborated for the public. I trouble myself very little with viewing old castles or remarkable ruins. They do well for the tourist who wants to spend his time and make a book. The living pursuit now is my object, and to that I mainly lend all my efforts. Although I have been so short a time in the country, yet I have not been an idle spectator. I have seen some of their best farming country, and their best stock.

Some of the country is very fine, especially a portion of that passed through on the route from Cork to Dublin. To me it has a very odd looking, though pleasant appearance. The fields are generally small, the greater part being from three to five English acres, divided by hedges and ditches, which at this season, do not present a very cleanly or snug appearance. I suppose in summer they look much better, though the proprietors complain very much that the poor people will cut down the trees and brush during the winter for fuel. The soil is good generally, and the climate fine, though varied.

Winter wheat for the last three years has been a very uncertain crop, and the prospect now is that it will be shorter next year than was ever known before. All grain or spring crops grow remarkably well, and give an abundant return. At one time Ireland used to export large quantities of wheat and flour to England, but now she imports more wheat than she ever exported. The corn factors account for it, by the decreased production at home, owing to the great risk attending its cultivation, and the farmers turning their attention more to grazing, which is very profitable, owing to the immense demand for all kinds of stock for export, and an increased demand at home, growing out of the improved condition of the people; the

temperance movement having done more to regenerate the country than any thing else. It is a very uncommon thing to see any man drunk. I have seen but one man yet in all Ireland that was the worse for drink. So that if they can, by any means, employ their people, Ireland must become a very independent state. I think as soon as it has been fairly tested that property is safe, and the people wish it, manufactures will flourish at once, and soon become a great source of wealth.

The weather, both here and in England, has been wet beyond any thing ever before known. It has rained almost constantly for the last two months. Thousand of acres are all ready for the seed, yet they can get no opportunity to sow their winter wheat, and much that has been sown will rot in the ground. Nothing but a miracle can save them from a short crop another year. Potatoes have not been as productive as usual, and it is so wet, a great many are yet to be dug. To add still more to the misery of the people, the wet weather has prevented a great many from laying up their usual supply of turf for fuel: peat being the chief dependence of large numbers. The prospect ahead for the poor is indeed one of unmingled blackness. Yet the splendid mansion overlooks the humble cabin, and the rich and luxuriantly living proprietor, cannot feel the misery of the ill-fed and half clothed cottager, though a tenant of his wide domain. Oh, ours is indeed a glorious country, and we are blessed above any other people. May we ever be mindful and duly thankful for those blessings, the half of which we cannot appreciate without seeing the misery and degradation of the people here in this old world.

Sincerely yours,

T. C. PETERS,

of Darien, Genesee Co., N. Y.

Useless Complaints.

To the Editor of the New Genesee Farmer:

As this is my first attempt to spread my ideas before the readers of the Farmer, the meanness of my essay may require some apology. I live in a portion of the Union where the paper is but poorly patronized, either by subscription or contribution. Most of the essays which fill its columns, are either from the pen of the editor himself or from those of correspondents living in the same latitude in New York, New England, or the western states. Not long since, two copies of the paper made their appearance at our post office with no definite address, and though they bore no other written message than the word "distribute," I thought this in common with their being sent might be construed to mean considerable. It might signify that the Genesee school of agriculture wished to edify us Marylanders; or that they would know what we were thinking and doing; or that the Farmer desired our support; or, perhaps, all these things together. I would not be the one to undertake the cause of my neighborhood with the New Genesee Farmer, were it not that I supposed there were no other likely to do it. It is true I have some ideas not just of a local nature to communicate, but these I could whisper to that abler correspondent, who might present them in a more attractive garb. Consequently, if my friend Colman thinks my remarks would be unprofitable to his readers, he may keep the edification to himself.

It is a common thing with the farmers of this part of Maryland and our neighbors of Pennsylvania, to be making continually complaints about the weather. It may be that you Yankees are less ungrateful and more philosophical on this subject than we are—that you do not foolishly torment yourselves with viewing only what is gloomy in every picture, but make the best of things beyond your control. If happily this be the case, and my remarks should be thought uncalled for by the state of affairs amongst you, I hope you will send us a luminous lecture on the subject in some future number of the Farmer. I shall take great pleasure in presenting it to my neighbors, that they may see I am not alone in maintaining that it is unreasonable as well as unchristian, to complain that our weather is not better. The religious farmer, who is thus inclined to murmur, I would remind of the debts he owes to a kind Providence. The farmer who does not allow obligations to a superior being to occupy much place in his affections, I would remind of the unhappiness he brings upon himself by his proneness to find fault with the weather.

Upon taking a view of the past and this much of the present year, I do not find that heat and cold, rain and sunshine, could have been more happily blended in our climate to promote the whole happiness of man. Produce of most kinds comes forth at our call in abundance, the air has been healthy and pleasant, and yet thus fraught with blessings as it is, I can hear scarcely any thing respecting the weather but a torrent of invectives. Because an occasional frosty night endangered the blossoms that had put forward prematurely, "It is the coldest spring I ever saw." When just a plenty of rain, with a temperature the most agreeable to all who have been cursed to wear clothing, was nourishing with the utmost vig. our wheat, oats and grass, "It is bad weather for corn,—the cut worm will have half of it." When the thermometer rose to 80° and 90° and we had a little moisture, quite necessary to prevent things from parching, "Won't this foggy weather be apt to rust the wheat." When, just in hay time and harvest, the rains were suspended for a month together, "I am afraid the corn crops will be short." Now, while the most agreeable vicisitudes of wetness and warmth are forcing our green crops to a most luxuriant growth, almost every farmer who meets me exclaims "What a bad time to harvest." Should this essay meet the eye of any one who has been tempted to such remarks as these, I beg him to consider that should the weather be really necessary to the evils here mentioned, if his care cannot avoid them, how foolish to be troubled about it! If, on the contrary, his management might have averted the bad effect, let him blame himself not the weather.

Such, of late years, has been our progress in knowledge, that the weather is almost the only thing tangible, whose laws we have not reduced to our own administration. J. P. Espy and his compeers may investigate and theorize, but if they contemplate controling the winds and clouds, I despair of their success. Nor is it to be desired. This control of the elements is one of the essentials of success in farming, which the Creator has reserved to himself. He has promised that "seed time and harvest, cold and heat, should continue" to the end of the world, and hitherto he has verified his word. So auspiciously has he ordered the elements in our favored climate, that we are actually groaning because of our abundance. How unreasonable and impious then to complain! Instead of murmuring, let us be thankful we were not doomed to toil to bring water from the clouds as well as bread from the earth. To the kindness of Providence are we indebted that this additional burden with a thousand more, were not imposed upon us. The receiver of alms has not the shadow of right to choose, and since fruitless murmurs about what he receives can only embitter his condition, it is both wisdom and virtue to be content with our lot.

Since I commenced this article, the 7th number of the current volume of the Farmer has come to hand. An editorial on the first page entitled "Political Anomalies and Inconsistencies," is excellent. In these times of silly complaint, it is a perfect dainty in sentiment. Fellow farmers, consider that article. If you have any thing to say about it, I would like to hear it. I would say something myself, but am too near the end of my sheet.

I must yet notice an article on "Noxious Weeds," on page 103 of the late number. I object to the term 'noxious,' as I have yet to learn that a single plant that has come from the Creator's hand is "noxious." It is true, the sacred historian seemed to consider "thorns and thistles" as an inconvenience, when he speaks of their growth as a consequence of man's disobedience; but since the earth does produce them, we might as well just make the best of it. We have found that thorns make very convenient fences, and to some parts of the world it would be a real loss to part with them. As for thistles, just look at the fair side of T. Tufts' account, on page 105. How much better for his brother's land, that those Canada thistles absorbed from the air a fund of nourishment for some future crop, than if, while its owner neglected it, no "noxious weeds" had taken possession. Continual cropping would exhaust any land, did not a growth (of "noxious weeds!") spring up in the intervals of culture, to replenish its fertility by their substance which is not thought worth gathering. Friend Colman, I have not room for more, thou seest; but I hope the subjects I have hinted at, will receive more ample justice from abler pens. Thy patron,

L. BALDERSTON.

Cecil County, Md., 7th mo., 1842.

For the New Genesee Farmer.

"Spare the Birds."

A sort of skirmish has been going on for some time past between the advocates of the birds on one hand, and the friends of unmangled fruit on the other; the one maintaining that all the depredations of the feathered race on the products of their orchards are immensely overbalanced by the hordes of pestiferous insects they destroy; while the others say that the good they do is greatly overrated, and that even those insects which they do eat, are more commonly of the harmless kind, the more destructive affording not quite such delicate morsels, and as a consequence remaining untouched.

Now all this contention would much better become the mode of philosophical inquiry adopted by philosophers of former centuries, who tried to investigate the operations of nature by abstract reasoning in their closets instead of observation in the open air.

"They could tell what time of day
The clock would strike, by Algebra,"

and some of them even went so far as to get into long and angry quarrels whether two angels or spirits could actually occupy the same mathematical point at the same time!!

Common sense teaches that when any thing is to be ascertained in the natural world, the right way to do it is by direct observation and experiment not by splitting hairs and dove tailing syllogisms. If you want to know which way the wind blows, why, go out doors and see; or how many bushels of wheat you have to the acre, measure it; argument and guessing will not avail much. So with the bird controversy; instead of battling it out on paper, resort to direct examination. Watch their operations, and see what they eat; dissect their stomachs and see what they have swallowed; and let not hasty examination suffice. The experiments must be repeated, and repeated, and repeated,—in all seasons and at all places; and then we shall not work in the dark, but know which are our enemies and which our friends; which are devouring the noxious and which the harmless insects; and properly estimate the pleasures of their singing, while we are sighing for the loss of our fine fruit which they have just swallowed. J.

We publish the following Circular with pleasure, and hope that all interested will give it their particular attention. The silk culture is certain to go forward. The public mind will presently recover a healthy state in regard to it. We want the results of actual experience—facts, accurately observed, clearly stated and fully authenticated; then no man who puts his hand to the plough need look back. We have had moonshine and Jack-o'lanterns enough; mystification and impositions in abundance; now let us proceed by the clear light of day. As a branch of domestic husbandry it is sure to afford an ample reward to labor.

SILK CIRCULAR.

To Silk Growers in New England.

Gentlemen:—At a Convention of Silk Growers, held in Northampton, on the 10th Nov. last, it was unanimously

Resolved, That, as during the infancy of the Silk business, great practical benefits may be expected from periodical meetings of its friends, a committee be chosen to consist of one from each of the New England States, whose duty it shall be to call a Convention at such time and place as they may deem expedient, to be called "The New England Silk Convention."

Thereupon, I. R. Barbour, Oxford, Mass., Dr. P. Brownell, East Hartford, Ct., David Benedict, Esq., Pawtucket, R. I, Dr. Artemas Robbins, Bellows Falls, Vt., Calvin Messinger, Newport, N. H., and Luther Severance, Esq., Augusta, Me., were appointed as this committee.

In pursuance of the purposes contemplated above, the subscribers say, that they design to invite a meeting of Silk Growers at some central place, the early part of the ensuing autumn. In the meantime, it has occurred to them, that, by an early attention to the matter, a great amount of valuable information connected with the Silk Culture, may be collected as the results of feeding the present season, and embodied in the form of a *Statistical Table* to be laid before the Convention and the public.

It is cheering to know that the results of the past summer's operations have been generally decidedly encouraging,—that the aggregate of the Silk Crop in Massachusetts, shows nearly a *three fold* advance upon any preceding year,—that this is probably about the ratio of increase in the other States of New England, and throughout the country,—that public confidence, after the late revulsion, is returning to the business, and that the Silk Culture is extending itself as rapidly as correct information respecting it is diffused; thus giving promise that it will soon become fully established.

To secure this important object, all that is wanted by our intelligent and enterprising men, is, *facts, facts*—well attested *facts*. The results of feeding in 1841, could they now be all collected, and embodied so as to give a *Tabular View* of the whole matter, would, it is fully believed, at once satisfy any business man, in regard to the *entire feasibility* of the Silk enterprise, and that its profits, when rightly conducted, are greater than in other branches of ordinary farming. Let us, then, be prepared to give to the public these facts, next autumn, in such a form as to command the confidence of business men. Do we not owe this small service to ourselves, to our country, and to the unborn millions that are in future times to be clothed, and fed, and educated from the fruits of this interesting form of agricultural industry?

For this purpose it is only necessary for each one engaged in the business, whether he does much or little, to keep such records as will enable him to answer the following questions—

1. How many *seasons* have you fed worms?
2. What *quantity of land* have you fed from the past season?
3. How *old* are your trees? (If they are of different ages, give the average.)
4. How *many lbs.* of cocoons have you made, weighed as they are gathered?
5. What has been the *expense* of making the cocoons here reported?

These questions can all be answered in *figures*. For a rule of estimating expenses, see below. In addition to these questions, there are a few others which we suggest.

1. What *kind* of trees do you use?
2. Have your trees been *essentially* injured by standing out winters?
3. Do you *head down* your trees in the spring?
4. In gathering foliage, do you cut up the bushes?
5. What kind of *buildings* do you feed in? and how *well* ventilated?
6. Do you give your worms any *artificial heat*?
7. Have you ever fed in an *open* place, like a *shed*, or *corn-barn*, where the worms had a perfectly pure air? *If so, state the results very particularly.*
8. Do you use air-slacked lime upon your worms?
9. Have you *failed* in any part of your operations the past season? If so, state the cause and circumstances.

These points will be all that is essential to the purposes designed, though we shall be thankful for any remarks or facts bearing on the general subject. To give expenses by some uniform rule, we suggest the following simple method. Make a little book, in which, at the close of each day, to enter the number of *hours* employed by men, women, and children. Then consider the labor of able bodied men at 10 cts. per hour; women at 6 cents; boys and girls between 15 and 17, at 5 cents; between 12 and 15, at 3 cents; and under 12, at 2 cents.

The expense of *planting trees*, we wish to be given *by itself*, as that is not an annual expense. Give us also, the fair rent of the buildings used, and we have all that is wanted.

That we may have time to prepare the contemplated Table in season for the Convention, we wish to have the returns all sent in by the 15th of September. To every person furnishing a return, free of expense, a copy of the table will be sent. Direct to *I R. Barbour*, Oxford, Mass., *post paid.*

I. R. BARBOUR,
P. BROWNELL,
ARTEMAS ROBBINS,
CALVIN MESSENGER,
LUTHER SEVERANCE,
DAVID BENEDICT,
} *Committee.*

March 24, 1842.

P. S. The Committee design to send this circular to every Silk Grower in New England. But many of course will be overlooked, because unknown to them. Will you, therefore, show this to all in your neighborhood, and get as many returns as possible. In Massachusetts there cannot be less than 500 cocooneries of some sort. In New England probably not less than 2000. From all these establishments we would hope for full returns, in due time, and free of expense. All Silk Growers are equally interested in the object aimed at, and the committee, as such, have no funds.

10,000 PEACH TREES,

FOR sale by the subscribers at their Nursery, (near Macedonville on the Erie Canal,) all of which have been propagated from BEARING TREES, whose genuineness or excellence has been thoroughly proved. They are of fine and very thrifty growth, and have all been at least once transplanted, and the roots thus greatly improved for again removing, so that the danger of loss or even check in growth from this operation, is exceedingly lessened. Price 25 cents each, $20 per hundred, $150 per thousand or $160, well packed and delivered for transportation.

The following are the chief varieties, which will afford a constant succession of ripe fruit from early in 8th mo. (Aug.) till late frosts, ripening according to the order in the list.

EARLY ANN—fruit small, good; tree of slow growth.

EARLY TILLOTSON—fruit medium size, excellent; a good bearer, and a most valuable early peach.

LARGE RED RARERIPE—fruit large, excellent. Ripens ten days later than the preceding.

EARLY YORK—large, sweet and rich; a fruit of the highest character.

WHITE IMPERIAL—large, white with a red cheek, sweet, juicy and melting; a most excellent peach, obtained probably from the celebrated Noblesse, which it excels.

YELLOW ALBERGE—fruit rather large, one of the finest yellow peaches—bears well and while young.

SEABOLT'S—fruit large, red, of first rate excellence.

RED CHEEK MALACOTON—fruit rather large, beautiful, of fine flavor; ranks as first rate among yellow peaches—bears well while young.

HILL'S CHILI—a very large, fine, yellow peach.

LATE YORK—an excellent freestone peach, except in unfavorable seasons.

HEATH CLING—fruit when not crowded, and in favorable seasons very large, often three inches in diameter, sweet and excellent.

Orders directed "Thomas & Smith, Macedon, Wayne Co., N. Y." will be promptly and faithfully attended to and the trees, carefully packed, sent by the Erie Canal, or by the Auburn and Rochester Rail Road.

J. J. THOMAS.
Macedon, 9th mo. 1. 1842. W. R. SMITH.

SALE OF SHORT HORNS IN CANADA.

A VALUABLE lot of High Bred Durham Bulls, will be offered for sale by auction, on TUESDAY, OCTOBER 15th, next, at Dundas W. Flamboro' Canada.

Complete pedigrees will be given. Terms liberal. Particulars next month. Easy Lake transport. Sept. 1.

PLOUGHS.

A NEW AND SUPERIOR KIND OF PLOUGHS, (two sizes) designed for breaking up summer fallow, may be purchased at the Rochester Eagle Furnace,—price $6 and $7 each. Wood and other produce taken in exchange.

A. J. LANGWORTHY.
June, 1842.

BUFFALO NURSERY.

THE stock now on hand for sale is much larger than at any former period, embracing a large collection of the most valuable kinds of the Apple, Pear, Peach, Plum, Cherry, Quince, Nectarine, Apricot, Filbert, Strawberries, Raspberries, Gooseberries, Currents, &c.

Of Ornamental Trees, Flowering Shrubs and Plants, a fine assortment, comprising almost every desirable article in this department. A large stock of Green-house Plants.

I also offer for sale 25 000 Apple Trees of one year's growth, from the graft or inoculation, in autumn will average over one foot high. They consist of 120 of the most valuable kinds—four-fifth of which have been cut from bearing trees and consequently will soon produce fruit. They will be sold for cash at the low price of $8 per hundred.—No less than from 5 to 10 of any one kind to be taken.

Also 5 000 seedling trees of the true English Mazzard Cherry, at $6 per 100,

Orders, per mail or otherwise, will receive prompt attention. Trees or Plants packed in superior order and shiped at Buffalo on board of any steamboat, vessel or canal boat required. Catalogues gratis to every applicant.

Buffalo, Aug. 1842. B. HODGE.

Important Sale to Agriculturists.

IMPROVED SHORT HORN DURHAM CATTLE. On Thursday morning, 8th September, at 10 o'clock, will be sold, at the exhibition ground of the Philadelphia Agricultural Society, Rising Sun, on the Germantown Road, 3 miles from the city, a choice selection of splendid Durham dairy stock from the herd of James Gowen, Esq., of Mount Airy, consisting of imported cows, bulls, and calves from Dairy Maid, Pocahontas, Victoria, &c., and by the celebrated bulls Coloatra, Prince of Wales, and Leander.

This sale will afford to breeders an opportunity of adding to their stocks thorough bred animals of high character and pure blood, and their diffusion into proper hands is a primary object in this sale, together with the necessity of a separation of the herd to prevent over close breeding.

Catalogues will be ready in due time, and the cattle may be examined at the exhibition ground two days previous to the sale. August 1.

ROCHESTER PRICES CURRENT.

Corrected for the New Genesee Farmer, September 1.

WHEAT,	per bushel,	$	81 a	$	85
CORN,	"		38		44
OATS,	"		19		22
BARLEY,	"		38		
RYE,	"		44		50
BEANS, White,	"		75		88
POTATOES,	"		18		22
APPLES, Desert,	"		25		38
FLOUR, Superfine,	per bbl		4,38		4,50
" Fine,	"		4,00		
SALT,	"		1,00		1,25
PORK, Mess,	"		8,00		8,50
" per 100 lbs.			3,00		
BEEF,	per 100 lbs		3,50		
POULTRY,	per lb.		5		6
EGGS,	per dozen,		9		10
BUTTER, Fresh	per pound		10		12½
" Firkin,	"		8		9
CHEESE,	"		5		6
LARD,	"		6		8
TALLOW, Clear,	"		8		
HIDES, Green	"		4		4½
PEARL ASHES,	100 lbs		5,00		
POT,	"		4,75		
WOOL,	pound,		22		28
HAY,	ton,		6,00		8,00
GRASS SEED,	bushel,		1,00		1,25
CLOVER SEED,	"		5,50		6,00

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Printed by Henry O'Reilly and John I. Reilly